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ABSTRACT

The report of the conference proceedings of the Southern Region Research Conference in Agricultural Education has summarized the presentations of 17 speakers. Some topics covered were: private foundation grantsmanship; problems of agricultural teacher reciprocity, certification, and recruiting; pre-teacher attitudes; follow-up studies of non-teaching agricultural education graduates. Reports presented included a progress and procedural report on the vocational-technical education consortium of States (V-TECS) and a report from the national committee on agribusiness competencies. A number of presentations centered on the State of Virginia--V-TECS, annual local evaluation programs, needed vocational education research, administrative role of principals of vocational-technical centers, evaluation of occupational hazards in agricultural education laboratories, use of the Krebs model for program evaluation, use of occupational data concerning former vocational agriculture students, and local results of the content-use study. Other presentations pertaining to particular States were the use of resource people for vocational agriculture in Kentucky and an evaluation of the Texas pre-employment laboratory program for training high school farm machinery mechanics. Approximately 25 pages consist of appendixes that summarize mini-reports on State research and development projects in progress, committee reports on research needs and regional research projects, and the conference program. (EA)

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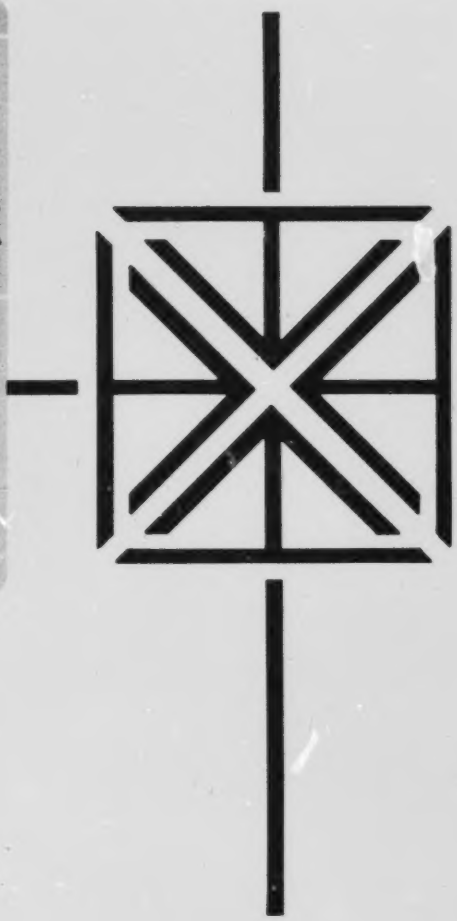

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Twenty-third Annual Southern Region Research Conference in Agricultural Education

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Proceedings

Twenty-third Annual

SOUTHERN REGION
RESEARCH CONFERENCE
IN
AGRICULTURAL EDUCATION

edited by
Jasper S. Lee

July 23-25, 1974

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GRANTSMANSHIP WITH PRIVATE FOUNDATIONS

Fred Brieve*

(Editor's Note: The report by Dr. Brieve was given in two parts: "Notes on Grantsmanship" and "Foundations and How to Get to Them." These are presented on the following pages in outline form as distributed to participants.)

NOTES ON GRANTSMANSHIP

I. Funding Sources have been increasing during the past ten years.

II. Persons in charge of funding at institutions find it increasingly difficult to keep abreast of growing number of agencies which offer financial assistance.

III. It is necessary to keep a library of resource materials such as books, journals, reports, manuals, government documents, and announcements.

IV. An internal plan should be necessary to circulate bibliography of the library holdings.

V. A research or grant administration office.

VI. Grant headings by subject area interest.

VII. Method of application.

VIII. General notes concerning the proposal:

A. Ratio of acceptance over rejection is generally higher if presented to agency on proper prescribed forms, using required format.

B. Time spent in preparation of a conscientious and well thought-out proposal becomes a salient feature in the funding process.

C. Rough draft should always be made first.

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*Dr. Fred Brieve, Director, Office of School Services, College of Education, Virginia Polytechnic Institute and State University, Blacksburg, Virginia.

D. Funding sources are then examined and proposal is circulated among those people concerned.

E. Budget approval should be obtained from appropriate source.

F. Proposal should then be prepared for final typing and transmittal to sponsor.

G. Signatures must have been secured.

IX. Proposal Evaluation

A. Significance

1. Project should focus primarily on problems of major importance.

2. Anticipated outcome of project should produce communicable results of potential values to others on a nation-wide basis.

3. There should be a clear need for accomplishing the proposed project.

4. Should be concerned with the development of new knowledge directly applicable to the problem or with the new application of existing knowledge.

5. When appropriate, the project should be original or one which can be defended as a check on previous assumptions or conclusions.

B. Design or Operational Plan

1. The problem to be dealt with should be well defined.

2. The purpose and value of the project, its plan and development, method of approach, and expected outcome and need for accomplishment should be clearly delineated.

3. Important aspects and consequences of the project should be accurately conceptualized.

4. The proposal should reflect a familiarity with the historical background of the problem and an awareness of similar projects which have been previously undertaken, as well as an adequate knowledge of other related activities in the field.

5. Hypotheses or questions to be raised should be well formulated and clearly stated.

6. The procedure should be well defined and should provide information on such points as sampling, techniques, controls, types of data to be gathered, and statistical analyses to be completed.

C. Personnel and Facilities

1. Applicant should have facilities available which are adequate for carrying out the project.

2. Applicant should be able to effectively implement the proposal, and if an institution is involved both the institution and its designated personnel should be fully capable.

3. The role of all professional personnel involved in the project should be clearly stated.

4. The director or principal investigator should have a history of professional experience in the project area.

D. Economic Efficiency

1. Over-all cost as compared with cost of other possible approaches.

2. There should be a favorable relationship between the probable outcome of the project and the total expenditure in terms of over-all value.

3. The period of time to carry out the proposal should be clearly stated in a general timetable provided.

4. The cost should be realistic with no unnecessary or padded items.

5. Any parallel request for support from other agencies should be indicated.

E. Feasibility

1. The project should be plausible in its potential to be accomplished and substantive in its anticipated outcome.

2. The proposal should be refrained from merely duplicating other projects currently being conducted.

3. There should be clear evidence that the proposal cannot be funded from the applicant's own sources.

4. There should be evidence of a commitment to the project even though it does not get outside funding.

X. Proposal Rejection

A. Sponsoring agency may have no interest in the proposal field.

B. If interested, the sponsor lacks uncommitted funds sufficient to support it.

C. A breakdown of the shortcomings may fall into the following categories:

1. The Problem
   a. The problem is of insufficient importance or is unlikely to produce newer, useful information.
   b. Proposal research based on hypothesis that rests on insufficient evidence.
   c. The problem is more complex than investigator realizes.
   d. The problem has only local significance.
   e. The problem is scientifically premature and warrants only a pilot study.
   f. Research as proposed is overly involved with too many elements under simultaneous investigation.
   g. Description of the nature of the research in its significance leaves the proposal nebulous and diffuse and without clear research aim.
2. The Approach
   a. Tests, methods, or procedures are unsuited to the stated objectives.
   b. Description of the approach is too nebulous, diffuse, and without clarity.
   c. The over-all design has not been carefully thought out.
   d. Statistical aspects of approach have not been given sufficient consideration.
   e. The approach lacks imagination.

f. Controls are either inadequately conceived or inadequately described.
g. Materials contemplated are outmoded or otherwise unsuitable.

3. Personnel
   a. Primary investigator does not have adequate training and experience, or both, for this project.
   b. Investigator is unfamiliar with literature in the field.
   c. Investigator's previous exposure in the field does not inspire confidence.
   d. Investigator proposes to rely too heavily on inexperienced associates.
   e. Investigator is spreading time too thin.

4. Other
   a. Requirements for equipment and/or personnel are unrealistic.
   b. It appears that the personnel assigned cannot spend enough time in attention to the research.
   c. Institutional setting is unfavorable.
   d. Duplication of research.

XI. Proposal Checklist

A. Have all potential sponsors been considered?

B. Budgetary Considerations
   1. Has it been cleared with the appropriate office or offices?
   2. If necessary, has provision been made for retirement, social security, anticipated salary changes?
   3. If reimbursed time is involved, has it been cleared by the appropriate office or offices?
   4. Have all uses of institutionally-owned equipment, such as computer time, been budgeted?
   5. Has provision been made for indirect allowance?

C. Have a sufficient number of copies of the proposal been prepared?

D. Are all required signatures on the finished copies?

E. Does your proposal give a realistic presentation of your needs?

F. Does the completed application fulfill the requirement and/or specifications established and required by the potential sponsor?

G. Have appropriate cover pages been made so a proposal is geared towards individual foundations?

XII. Content and Organization of the Proposal

A. Introduction should include justification for the program and the specific needs of the school it is intended to serve. The reasons why the proposed program is needed for a particular region or locality should be given and why it should be offered at this particular college or university.

B. Objectives: The role should be explicit and the particular competencies which are to be developed should be related to them.

C. Participants: The kind and number should be stated, and the reasons for selecting them should be explained.

D. Criteria for elegibility: This item is optional in the proposal preparation, depending on whether participants were to qualify for support in participating in this program.

Selected Sources of Funding Information

1. Federal Registry - RFP's, USOE, NIE, etc.
2. The Grantsmanship Center News, 7815 South Vermont Avenue, P.O. Box 44759, Los Angeles, California, 90044. $10.00 per year.
3. Foundation News, Council on Foundations, 888 Seventh Avenue, New York, New York, 10019. $15.00 per year.
4. Foundation Directory, Columbia University Press, New York, New York, 1972. 4th Edition.
5. Mailings Direct to Foundations.
6. Commerce Business Daily.
7. NSF Bulletin.
8. Office of Naval Research.
9. Clement and Jesse Stone Foundations, 111 E. Wacker Drive, Suite 510, Chicago, Illinois, 60601.
10. AID - Front Lines, PAO, Room 4898, AID, U.S. Department of State, Washington, DC 20523.

11. The Chronicle of Higher Education.

12. The Grants Register, 1973-75, St. Martins Press, 175 Fifth Avenue, New York, New York, 10010.

FOUNDATIONS AND HOW TO GET TO THEM
GENERAL PROCEDURES CONCERNING PROPOSALS

1. Prepare no more than two-page abstract within the guidelines set forth in the most recent annual report.

2. Get a person's name to correspond with--far better than "Dear Sir," etc. Do a lot of phoning to find out who is in charge of the initial screening.

3. Offer to come down to explain request if there is interest. Foundations seldom give money to people they don't know. Overhead monies should be available for trips, visits, and miscellaneous costs.

4. Be sure to include primary investigator on invited visit. If the foundation is interested enough to have you down, you must insure that all questions concerning proposal can be answered. The director of development should do all arranging and carry the ball, but he can't always answer the "sticky" questions.

5. It's not a bad idea to call prior to the abstract just to be sure the guidelines of the foundation have not changed. Sometimes moratoriums are imposed in the interim.

6. Be sure there is an institutional or personal commitment of some kind. Foundations are far more receptive to proposals if you are committed to doing them on a small scale if you don't get complete funding.

   I am always leery of the guy who says, "If I just had the money." The project should stand on its own merits. Too many projects are looking for the easy money. Individual commitment could be as small as "your own time" over and above a full load.

   The point is--you should indicate a willingness to get it off the ground on your own. Part of good salesmanship--you use the product yourself.

7. Stress evaluation and use of results. Even an abstract, without mention of this, "loses points."

PROCEDURE AFTER THE VISIT--CFK

1. Initial in-house evaluation (usually with director of grant program).

2. Usually, the proposal is submitted or discussed at time of visit.

3. Sometimes a site visit by director of the grant program takes place in lieu of the initiator visiting the foundation.

4. Staff review (foundations have a number of people who review proposals for them).

5. Staff is constantly evaluating: getting proposals ready to submit to grant review council which is composed of key foundation officers. (About 25 percent of proposals get knocked out here while another 25 percent get recommended for resubmission.)

   Usually, the 50 percent left, plus resubmittals, get to the board. Very few get turned down by the board. There are so many for the board to review that they couldn't begin to get into the details of each.

6. Meetings (May through November with funding usually occuring 1 July and 1 January.)

7. Site visits (Not spying but are for interest of foundation.)

8. If your project has equipment indicate who it belongs to.

9. If it has product potential, you should know who it belongs to and indicate it in writing.

10. Income generation.

11. In-house foundation projects are the coming thing.

12. Don't count on continued support after your termination date.

13. Fairly easy to get up to $15,000 to finish project if improperly budgeted originally.

14. "Conning" (If you can get to a board member, do it. Many grants are effected this way. Cite statistics. Many trustees champion causes.)

PROGRESS AND PROCEDURAL REPORT ON THE VOCATIONAL-TECHNICAL EDUCATION CONSORTIUM OF STATES (V-TECS)

Ben A. Hirst, Jr.*

(Editor's Note: Mr. Hirst prefaced his presentation with a brief description of the V-TECS project. His formal presentation was concerned with the Phase II Model to manage the development, production, dissemination and implementation of catalogs of performance objectives and criterion-referenced measures in occupational education.)

INTRODUCTION

The following model is the result of a study of seven other models: those used by the Air Force Air Training Command, the State of Florida, the State of Michigan, the State of Alabama, Project CAREER within the State of Massachusetts, the Educational Testing Service, and the State of Utah. Components of the model were selected by the application of criteria taken from the Agreement Form of the Vocational-Technical Education Consortium of States (V-TECS), the minutes of the ad hoc Steering Committee which formed the Consortium, and the minutes of the Board of Directors, V-TECS. Some model components were the result of additional research conducted through an exhaustive study of the literature, a computer-assisted search of the ERIC files, a computer search of journal articles, and a manual search of the Dissertation International Index.

THE PHASE II MODEL

Activity Number I
Determination of Priorities and Assignment of Catalogs

This activity is the first step for developing catalogs of performance objectives and criterion-referenced measures. The activity has four basic sub-activities which form the rationale and consensus for catalog priority identification and assignment to the member states of V-TECS.

Sub-Activity I-1--State Priority Determination

The member states study data available to them concerning manpower needs, employment opportunities, and student interest surveys to establish a priority list within the state for catalogs of performance objectives and criterion-referenced measures. A state may consider regional and national data to determine its priorities or any other information which it deems necessary or appropriate.

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*Mr. Ben A. Hirst, Jr., Executive Director, V-TECS, Southern Association of Colleges and Schools, Commission on Occupational Education Institutions, Atlanta, Georgia.

Sub-Activity I-2--Consortium Priority Determination

The Board of Directors of V-TECS will discuss, in turn, the priorities established by each member state. The purpose of this structured discussion is to develop a priority listing from which the member states may select and be assigned a certain number of catalogs to develop. This sub-activity is to assure that duplication does not occur and that a state has the opportunity to negotiate for specific catalogs in which it has a particular interest or for which considerable work has already been accomplished.

Sub-Activity I-3--Resolution of Conflict and Exchange of Previous Work Related to Catalogs to be Developed

Should states not be able to resolve priority preference conflicts, a drawing of assignments will be conducted by the Board of Directors. In case a state does not get its desired priority area for reasons identified by the Board of Directors, a copy of such accomplished work would be provided to the state assigned the catalog area in dispute. This material will be included as an essential part of the state-of-the-art study to eliminate duplication of effort.

Sub-Activity I-4--Assignment and/or Selection of Catalogs

The Board of Directors makes the decisions concerning the final selection and/or assignment of catalogs after state and Consortium priorities have been determined. Two primary considerations are given member states on the selection of a catalog:

(1) the state has a particular interest in a domain area
(2) the state has accomplished or has in progress considerable work in a domain area which would benefit the Consortium

Catalogs assigned by the Board of Directors of the Consortium are subject to acceptance by the state involved in the assignment.

Activity Number II
The Memorandum of Agreement

A Memorandum of Agreement is entered between the state selecting or being assigned a catalog to develop and the Consortium. The parties of the Memorandum of Agreement are the Chairman of the Board of Directors of V-TECS, the Executive Director of V-TECS, and the person designated by the State's Plan for Vocational Education as the State Director of Vocational Education.

Activity Number III
Technical Preparation of V-TECS Staff and State Coordinators

The technical preparation and training of the Consortium staff and the technical coordinators in the states are paramount to maintaining

quality control. A program of technical development will begin with an orientation to the model to insure that technical skills and knowledge are sufficiently developed to provide maximum quality control. This activity is divided into six sub-activities which form the basis for staff preparation and training and are as follows:

Sub-Activity III-1--System Orientation

A program designed to insure the performance of Consortium staff and technical coordinators will be administered. The orientation is in performance terms with each person satisfactorily completing the required tasks at a criterion-based performance level. Orientation to the system will not be considered complete until the performance standards are met by the Consortium staff and the techncial coordinators.

Sub-Activity III-2--Determining Decision Criteria

The Board of Directors and the staff of V-TECS will develop the decision criteria to be used in the determination of tasks to be converted to performance objectives for cataloging. The decisions will be based upon cut-off indices of time-spent, difficulty, criticality, and task perishability. Other bases for decision criteria may be developed by the Board of Directors based upon research of the data resulting from the surveys of the incumbent workers and their immediate supervisors.

Sub-Activity III-3--Interpretation of Task Analysis Data

An intensive training plan will guide the preparation of Consortium staff and personnel within the states to effectively utilize the data from the task analysis system. This training will assist personnel in the determination of index measures of tasks which are sufficiently high to use in a catalog. Optimum index rating scores will be developed when experience demonstrates that such a rating is feasible. Any tasks which fall below the desired index rating or combination of indices ratings will be excluded from conversion to performance objectives. Continuous training will be conducted for personnel as the task analysis system develops and the analysis of the research indicates a need for further training.

Sub-Activity III-4--Developing Skills in Writing Performance Objectives

Workshops, seminars, and conferences will focus on the development of skills needed to write performance objectives. Consortium staff and technical coordinators will be expected to demonstrate their ability to take a given set of task statements and data, then develop written performance objectives and criterion-referenced test items.

Sub-Activity III-5--Writing of Criterion-Referenced Test Items

Following the training of the staff and technical coordinators in the skills of writing performance objectives from task analysis data

and task statements, intensive efforts will be introduced to develop companion criterion-referenced test item(s) for each performance objective. A task statement will yield one or more performance objectives and a performance objective will yield one or more criterion-referenced test items. Criterion-referenced test writing experts will serve as consultants for training Consortium staff and state technical coordinators. Personnel will either be sent to the source of technical expertise or the experts will be assembled in conference, seminar, or workshop settings.

Sub-Activity III-6--Monitoring and Quality Control of Personnel, Education, and Training

The Consortium staff and state technical coordinators will develop individual plans of technical preparation for themselves under guidelines developed by the Board of Directors of V-TECS. These plans would serve as a guide to insure minimum competence levels of personnel of the Consortium staff and within the states. The Executive Director of the Consortium has the ultimate responsibility for monitoring individual training programs of the Consortium staff and state technical coordinators in the states. The Board of Directors will receive at least a biennial status report of the technical preparation activities designed for individual Consortium staff and technical coordinators within the states. Reports of this nature may be requested any time the Board of Directors desires to know the status of the total plan or individual progress of personnel.

Activity Number IV
Domain Study for Catalog Development

The domain study consists of thorough and organized research of what has been developed in performance objectives and criterion-referenced measures which might be appropriate and helpful during the development of a catalog. A domain consists of a broad instructional area (such as automotive mechanics) and should include appropriate job titles (e.g., automotive tune-up mechanic, service station mechanic, service station attendant, front end and brake mechanic, general automotive mechanic). Activity IV consists of at least four sub-activities:

Sub-Activity IV-1--State-of-the-Art Study

This activity increases the probability that Consortium projects will find material which has already been partially or fully developed by others in a domain area. The state-of-the-art study will include the following research activities as a part of the states' development of catalogs:

(1) a search of the ERIC system for germane information
(2) a search of the journal index of ERIC for germane articles
(3) inquiries to the U.S. Office of Education, National Center for Curriculum Development in Occupational Education

(4) selected inquiries to state departments of education for germane material
(5) inquiries to industry and private training institutions
(6) review of the Dissertation Abstract International Index
(7) inquiry to local education agencies identified as working on germane projects

Sub-Activity IV-2-- Task List Development

A comprehensive list of tasks performed by the incumbent worker will be developed as a part of the domain study. The task list will be based upon research completed in the state-of-the-art study (Sub-Activity IV-1) and, in addition, will include the following:

(1) a job structure arranged from the lowest job titles to the highest job title within a domain
(2) a coding system developed by the Consortium and identified in the Dictionary of Occupational Titles will be applied to the job structure
(3) development of a task list using the following sources for obtaining task statements:
    (a) review and observation of technical procedures used by workers
    (b) identification of existing task lists or statements from technical manuals and germane literature
    (c) interviews with incumbent workers and their immediate supervisors
    (d) use of craft committees and selected committees of instructors to identify incumbent worker tasks
    (e) provision of space for a survey of incumbent workers to add task statements not included on the list

Sub-Activity IV-3--Development of Background Information

This part of the domain study will be used in conjunction with the task list to provide data which may be cross-tabulated and studied with the companion task lists. The background information section will include as a minimum:

(1) information about the incumbent worker and/or supervisor
    (a) name and address of incumbent worker
    (b) date survey completed by incumbent worker
    (c) job title or classification
    (d) years and months of experience in career field
    (e) years and months of experience in present job title or classification
    (f) previous vocational-technical training
    (g) private or public school attendance
    (h) highest grade level completed or GED equivalent
(2) information about job satisfaction
(3) information about utilization of talents and prior training
(4) list of equipment and tools used in the jobs of the domain

(5) type of work environment of the incumbent worker
(6) size of business or industry

Sub-Activity IV-4--Reports of the Domain Study

The following reports will be required of the domain study activity:

(1) State-of-the-Art Study--This report includes the methods used to meet the requirements of Sub-Activity IV-1, (1), (2), and (3) of the model.

(2) Background Information and Task List--This report includes a comprehensive section on background data to be completed by all incumbent workers who are surveyed. Following this section will be a comprehensive task listing which each incumbent worker will be asked to verify in his job classification. He will also be given the opportunity to add any task he is performing which is not included. The background information and task lists will be printed, in booklet form, in a standard format set by the Consortium staff and approved by the Board of Directors.

Activity Number V
Development and Implementation of the Domain Sampling Technique for the Task Statement Survey

The purpose of this activity is to obtain a sample of incumbent workers by a domain area and collect certain information from those sampled to be used later in a task analysis. Survey booklets of task statements are developed and printed using a standard format for the background and task statement information. The sampling design would be developed by an independent agency.

Activity Number VI
Occupational Analysis System

The backbone of the Phase II Model is the system used to develop scientific task analysis information based upon a direct survey of incumbent workers. This effort should affect the quality, realism, and scope of the catalogs of performance objectives. The basic source document for the task analysis system is the task statement survey and background information collected from the incumbent worker. Activity Number VI has five basic sub-activities which make up the system of task analysis. These sub-activities have to do with computed indices of task time-spent, task difficulty, task criticality, task perishability, and computer analysis and reporting.

Sub-Activity VI-1--Task Time-Spent Index

The incumbent workers complete the background information and check the tasks they actually perform in the task statement booklet. After checking the task statement, the incumbent worker rates the relative amount of time spent on the task along a seven-point scale. The response

on the scale is converted to a time-spent index based on percentages over the total group of task statements checked. The resulting percentage figure is cumulative to 100 percent on all tasks checked. This conversion of information and calculations is accomplished by use of a computer.

Sub-Activity VI-2--Task Criticality Index

The incumbent worker rates a task in terms of its critical performance. The primary interest of this part of the task analysis is to ascertain by use of a seven-point scale the relative critical values of each task. When obtained, the index of criticality can be applied to the development of performance objectives. A thorough review of this critical index will identify the tasks which are most critical in descending order to those which are considered least critical. On the basis of these data, determination can be made regarding the consequences of a poor performance of the critical tasks.

Sub-Activity VI-3--Task Difficulty Index

The same process is used to calculate an index of task difficulty which is used in the determination of the time-spent index. A seven-point scale is again employed to determine the incumbent worker's perception of task difficulty. One additional step is included to determine the task difficulty index. The task statement survey is also administered to the immediate supervisor of the incumbent worker. The responses are then correlated, and the resulting figure becomes the difficulty index.

Sub-Activity VI-4--Task Perishability Index

The same sampling technique and incumbent workers are used to obtain a perishability index. This index is a measure, on a seven-point scale, of the relative perishability of a task statement currently being performed by the incumbent workers participating in the survey. This index will relate to the need for retraining or refresher courses should the worker not perform, on a continuous basis, those tasks which are rated to have high indices of perishability. One implication of this type of index is to provide guidance for development of self-paced instructional packages which have as a basis the tasks which have the higher perishability indices. Retraining and development of materials could be minimized by including objectives for tasks which have high indices of perishability.

Sub-Activity VI-5--Processing of Data and Development of Reports

The information collected from Sub-Activity VI-1, VI-2, VI-3, and VI-4 will be computerized for statistical analysis. Information will be translated from qualitative data to quantitative data. The quantitative data will produce the index values of time spent, criticality, difficulty, and perishability. Many other statistical analyses can be applied to the data for the purpose of rank ordering, multiple regression analyses, cross tabulation of tasks with elements and subelements of the background

information, etc. The resulting printouts will be furnished to the state developing the catalog of performance objectives and criterion-referenced measures as a basis for their developmental activities and decision making.

Activity Number VII
Development of Catalogs of Performance Objectives and Criterion-Referenced Measures

The activities prior to Activity VII have emphasized primarily the training and preparation of personnel, the collection and analysis of information, and other preliminary steps necessary to write and catalog performance objectives and criterion-referenced measures. This activity is the application state of the model. Information from incumbent workers is combined with the knowledge of selected instructors, curriculum specialists, criterion-referenced test designers, and educational researchers to transpose the resulting data into meaningful test items. Activity VII contains four sub-activities designed to accomplish this task which are as follows:

Sub-Activity VIII-1--Selection and Preparation of the Writing Teams

(1) Selection of Writing Teams--The project director and technical coordinator screen possible writing team candidates and select those instructional personnel which they determine have the potential and interest to write performance objectives and criterion-referenced measures. The writing team will consist of a minimum of one instructor, one technical writer, one person having demonstrated ability and experience in developing criterion-referenced measures and one person having either local or state supervisory responsibility over the domain being developed. Each writing team should have a preferred alternate member who has responsibility in curriculum development at the local or state level. Exceptions to the writing team composition will be made upon request by the state developing the catalog. The request will be transmitted to the Board of Directors with appropriate justification for the exceptions. Decisions will rest with the Board of Directors.

(2) Preparation of Writing Teams--The state technical coordinator will have the primary responsibility of assisting the project director in the training of the writing team members. The total design of the model will be explained--the results of the state-of-the-art study, the task analysis system, and the conversion process from task statements to performance objectives. Companion criterion-referenced measures will be prepared for each performance objective incorporating performance standards which are used on the job when these standards are available. Components of the training program developed for the Consortium and state technical coordinators will be used as the basis for training and preparing the writing teams for their tasks.

Sub-Activity VII-2--Writing Performance Objectives

All performance objectives developed by the writing teams will

meet the definitions and quality criteria set forth in the Memorandum of Agreement. The components of the performance objective will contain the following requirements: situation confronting the learner, action required of the learner, object on which learner is to operate, limits of performance, measurability of the action, communicability of the objective, and degree of proficiency required of the learner.

Sub-Activity VII-3--Preparing Criterion-Referenced Measures

Each performance objective will have one or more companion criterion-referenced test items to be used by instructional personnel. The test items will be studied to insure that a definite relationship exists between the criterion-referenced item and the standard of performance stated in the performance objective. The definition and components of an acceptable criterion-referenced measure are spelled out in the Memorandum of Agreement and will include: congruence with the performance objective, comprehensibility (expressed at a proper reading level for the level of the training program), objectivity of the test item, integrity expressed in terms of sufficient evidence that the learner can perform the corresponding objective, and equivalence within the test items. The criterion-referenced test items will be developed by the writing teams which develop the performance objectives under the technical direction of the person on the team with test item experience, the director of the project, the technical coordinator in the state, and the technical specialist on the Consortium staff. Particular emphasis would be placed upon explicit information concerning criterion of performance on-the-job and conditions under which performance occurs. Standards would be based upon those used by business and industrial workers.

Sub-Activity VII-4--Developing the Catalog of Performance Objectives and Criterion-Referenced Measures

The performance objectives and criterion-referenced measures will be coded by job classification within the domain being developed. This coding system will be developed by the Consortium and applied to all products of the Consortium. Catalog format and content are outlined in detail and are available through the technical coordinator in each state. All catalogs will be furnished in final draft form (camera ready) for mass production.

Activity Number VIII
Field Testing and Commonality Study

This activity is designed to determine the instructional acceptability of the performance objectives and criterion-referenced measures. The degree of validity will be determined by analysis of teacher and instructor responses to questions during the field test portion of each project. Field test sites and conditions will be selected by the application of a criterion developed by the Board of Directors, Consortium staff, and technical coordinators.

Activity Number 1X
Computerize Performance Objectives and Criterion-Referenced Measures

The primary purpose of this activity is to provide immediate response to the states' requests for catalogs. The computer banking of performance objectives and criterion-referenced measures eliminates the time-consuming and costly step of technical editing each time a catalog is revised and updated. Since only those objectives actually changed will be accessed from the computer, the majority remain unchanged and may be retrieved and printed in the same manner each time. Research capabilities, as well as many management possibilities, exist when the computer is used to do time-consuming calculations, compiling, and cataloging of performance objectives and criterion-referenced measures. This activity contains four sub-activities as follows:

Sub-Activity IX-1--Developing Computer Bank of Performance Objectives and Criterion-Referenced Measures

After field testing, the catalogs of performance objectives and criterion-referenced measures are processed and placed in a computer bank for rapid retrieval. The coding system adopted by the Consortium is the key to the retrieval system for the computerized information. The information is arranged so that it may be retrieved by domain area or any coded job within a domain. A member of the Consortium may request the total catalog or any of its subparts for use in curriculum design and curriculum building. Information is recorded concerning the perceptions of the teachers and instructors during the field test and commonality review. These perceptions concern the comprehensiveness, utility, and appropriateness of the performance objectives and criterion-referenced measures for instruction. In addition, the perceptions concerning the commonality of performance objectives, across several programs in occupational education, are collected for analysis.

Sub-Activity IX-2--Research Aspects of the Computerized Performance Objectives and Criterion-Referenced Measures

(1) Field Test Data--Information collected during the field test activity is analyzed by the computer. The purpose of this analysis is to identify those performance objectives and criterion-referenced measures which appear to be defective. When the defective objectives and measures have been identified, they are forwarded to the state which developed the catalog with instructions for removing the possible defects.

(2) Commonality Review--The results of the commonality review by teachers and instructors form the basis for the identification of core performance objectives. This common core provides a basis for planning curriculum for pre-vocational, general shop, related subjects, and career education programs. These common performance objectives also provide a framework for prerequisite skills, knowledge, and abilities needed by students to further their preparation for employment at a higher level.

(3) Cross-analysis Research--Computer programs will be utilized which cross-tabulate and cross-analyze data received from teachers and instructors with data collected from the task analysis based upon surveys of incumbent workers and their immediate supervisors. The research implications of these data are unlimited when incorporated into the Revision and Updating Activities of the model.

Sub-Activity IX-3--Management of Performance Objectives and Criterion-Referenced Measures

The application of a code number to each performance objective, which relates it to a specific domain and, within the domain, to a specific job classification, provides an added degree of manageability. The performance objectives will be retrieved from the computer bank by job classification, by total domain, by commonality elements, or other mixes required for planning various training programs. The computer can be used to compile the catalog by printing out performance objectives in any desired structure or substructure within a domain. Training programs for a new or expanding industry may be designed and retrieved from the computer and can provide those performance objectives which correlate with the job structure of the new industry. The resulting performance objectives provide a realistic planning base for curriculum which must be tailor-made for the task at hand. Many other curriculum management advantages can be developed upon this computer bank of performance objectives. The curriculum design implications are limited only by financial resources and human ingenuity.

Sub-Activity IX-4--Development of Special Reports for Training the Handicapped Learner

Information collected from the work of a special committee for the handicapped will be computerized and used as a research base for developing, planning and organizing training programs and activities for the handicapped learner. The performances specified in the objectives and criterion-referenced measures could be modified to permit handicapped workers to demonstrate their ability in terms of particular job titles. Other valuable research could be accomplished by using the data concerning the abilities of the handicapped and comparing it with background information from the incumbent workers and their immediate supervisors.

Activity Number X
In-Service Education and Dissemination Plans

Each state using the materials of the Consortium will develop a comprehensive model for disseminating the catalogs of performance objectives and criterion-referenced measures. In addition, a comprehensive in-service training program must be developed which is designed to prepare both instructional personnel and supervisory personnel in the techniques of managing performance-based knowledge and new skills for teachers and their managers if it is to achieve the desired results. This activity contains subactivities which are directed toward the achievement of an acceptable degree of implementation of performance-based instruction in the classrooms, laboratories, and shops of participating states.

Activity Number XI
Revision and Updating of the Catalogs

The rapid rate of change in a technical society mandates a better way of keeping vocational-technical instructional materials up-to-date; but, more importantly, it mandates keeping them relevant to the needs of a modern job structure. This activity is designed to maximize input from instructional personnel, craft advisory committees, and the incumbent worker so that catalogs may be revised on a scientific and as-needed basis. This activity contains four sub-activities which form a cycle for revising and updating the catalogs. The cycle will take approximately three years to complete with a decision to revise and update or not to revise and update at the eighteen-month point in the cycle.

Activity Number XII
Third Party Evaluation of the Vocational-Technical Education Consortium of States

Evaluation of the Consortium on a biennial basis is considered desirable by the Board of Directors of V-TECS. A third party evaluator will be selected on a low bid basis from a group of competent and qualified evaluators. This type of assessment has important advantages and will serve as a basis for self-renewal. This activity contains three sub-activities which are as follows:

Sub-Activity XII-I--Selection of the Evaluation Team

The Board of Directors of V-TECS will select a qualified low bidder as a third party evaluator from states or organizations outside the membership to evaluate and make recommendations concerning the total organization and its procedures. This evaluation shall occur within the first two years of the operation and every two years thereafter. The Board of Directors selects and employs the evaluators and sets guidelines for their study. These guidelines will be used as a basis for developing a well-defined and congruent request for proposals.

Sub-Activity XII-2--The Evaluation and Report of Results

The evaluation is conducted by a team selected by the Board of Directors. The chairman of the evaluation team will be selected by the successful bidder and the members of the evaluation team. The results of the evaluation are forwarded to the Chairman of the Board of Directors of V-TECS with a copy transmitted concurrently to the Director of the Southern Association of Colleges and Schools, the Executive Secretary of the Commission on Occupational Education Institutions, and the Executive Director of V-TECS.

Sub-Activity XII-3--Implementation of the Recommendations of the Evaluation

The Board of Directors of V-TECS reviews the evaluation results and directs the implementation of the recommended changes as it deems necessary

and expedient. The administering agency files its response to the Board of Directors for consideration prior to implementation of recommendations made by the evaluation team.

GLOSSARY OF TERMS

1. Catalog - A collection of performance objectives and companion criterion-referenced test items organized by domain area and further broken down by job titles within the domain.

2. Criterion-Referenced Test Exercises - A criterion-referenced test exercise is an exercise based upon a performance objective and is designed to allow the determination of whether or not the learner has accomplished the objective. It possesses each of the characteristics specified below:

   a. Congruence - The task specified in the item corresponds directly to the performance specified in the objective, including the situation, action, object, and limits.

   b. Comprehensibility - The item-specified task is so stated or portrayed that the learner clearly understands what is expected of him.

   c. Objectivity - The exercise (including component items, if any) is stated in such a way that all competent observers (evaluators) can make a clear and equivocal decision as to whether or not the learner has demonstrated an acceptable performance.

   d. Integrity - The exercise is structured in such a way that an acceptable response to the exercise constitutes sufficient evidence, in and of itself, that the learner has accomplished the corresponding objective.

   e. Equivalence - If two or more exercises correspond to a single objective, each exercise in the set would be a true alternate, in that a student who passes (or fails) one exercise on a given occasion would be expected to pass (or fail) any other exercise in the set.

3. Domain - A group of job titles which are closely related according to Vocational Education and Occupations, U.S. Department of Health, Education, and Welfare and U.S. Department of Labor, U.S. Government Printing Office, 1969.

4. Domain of Interest - The total content covered by a subject or occupation. Domain charts, as they become a part of a task analysis, provide the limits within which the performance objectives and criterion-referenced test exercises are developed.

5. Incumbent Worker - A person who participates in the survey of workers in business and industry, who holds a specific job at that particular time.

6. Instructional System - An integrated combination of resources (students, instructors, materials, equipment, and facilities), techniques, and procedures performing efficiently the functions required to achieve specified learning objectives.

7. Instructional System Development - A deliberate and orderly process for planning and developing instructional programs which insure that personnel are taught the knowledges, skills, and attitudes essential for successful job performance. This process is also known as Instruccional System Engineering and Systems Approach to Training.

8. Job - The composite of duties and tasks actually performed by an individual.

9. Job Inventory - A listing of all tasks to be performed. A composite listing of job performance requirements and standards.

10. Job Performance Requirement or Standard - The tasks required of the human component of a system, including the associated standard of performance.

11. Occupational Analysis - The process of identifying duties and tasks which comprise workers' responsibilities, including the collection, collation, and analysis of such data.

12. Performance Objective - A performance objective is a statement in precise, measurable terms of a particular behavior to be exhibited by the learner under specified conditions. It possesses each of the elements or characteristics specified below:

    a. Situation - The situation confronting the learner is clearly specified, including the mode in which stimuli are to be presented.

    b. Action - The action required of the learner is unambiguously defined, including the mode in which responses are to be made.

    c. Object - The object on which the learner is to operate (i.e., the object of the action) is clearly stated.

d. Limits - The particular limits associated with the activity expected of the learner are specified. (Limits may be placed on situation, action and/or object.)

e. Measurability - The specified action is an observable rather than an inferred response.

f. Communicability - The objective is so stated that one, and only one, interpretation of the objective is reasonably possible.

g. Criterion - The degree of proficiency required as evidence of accomplishment by a student of the objective is indicated. (The criterion may be indicated implicitly or explicitly. If implicit, 100 percent accuracy is effectively designated. If explicit, it may be appended parenthetically to the statement of the objective.)

13. Duty - A distinct grouping of tasks which are related to each other by the nature of the work to be performed.

14. Task - A unit of work activity or operation that constitutes a logical and necessary step in the performance of a duty.

15. Task Analysis - The process of analyzing job inventory data so as to determine training requirements.

V-TECS IN VIRGINIA

J. Dale Oliver*

Work toward developing the catalogs of performance objectives and criterion-referenced measures was initiated in January, 1974. The following areas were selected for development:

Office of Education Code	Area
14.0700 and 14.0900	Stenographic, Secretarial, Typing and Related Occupations
09.0203	Food Management, Production and Services Occupations

The first step was to conduct a state-of-the-art study. In the secretarial area, it was found that considerable task analysis work has been done and some performance objectives have been developed. Limitations of the materials found were:

1. The task analysis studies tended to emphasize the tasks performed by beginning office workers.

2. The studies generally attempted to cover the identification of tasks for all clerical workers at one time rather than concentrating on selected areas within the extremely broad category of clerical occupations.

3. Many of the studies were directed at identifying major activities rather than specific tasks performed by clerical workers.

4. In most of the studies, the primary concern was whether or not workers performed the tasks rather than considering the amount of time spent by workers in the performance of specific tasks.

5. Only a limited amount of work has been done in the development of performance objectives with criterion-referenced standards.

A comprehensive review of the literature in the food service area revealed that very few tasks analysis studies have been made. It was felt that a more uniform approach to the development of curriculum materials was needed.

The second step involved the development of comprehensive task lists or occupational inventories for the two areas. The tentative inventory booklets were developed based on the state-of-the-art studies. They

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were refined and further developed by interviewing workers, supervisors, and instructors. The process of refining was continued until there was little or no change in the inventories. In the secretarial area, five incumbent workers, two supervisors, and three instructors were interviewed; in the food service area, the interviews included nine incumbent workers, five supervisors, and one instructor. The final form of the inventory booklets includes a set of background data, a list of equipment used, and a list of duties and tasks performed by workers. The workers are asked to check the tasks performed and to indicate the time spent on each task using a scale of 1 through 7.

The third step, currently underway, involves a survey of incumbent workers in each area using the inventory booklets. The surveys are being conducted on a state-wide sampling basis. An estimate of the number of workers was obtained from the 1970 U. S. Census. For the secretarial area, the ten major categories of industries from the Standard Industrial Classification Manual were used. The names of firms in the private sector for each of the ten categories were obtained from the Virginia Employment Commission. These firms were stratified by size (based on the estimated number of secretaries, stenographers, and typists employed) and a systematic sample of firms was selected. The firms in the sample are being contacted to find out whether they (1) hire secretaries, stenographers, or typists and (2) are willing to cooperate in the study. Those willing to cooperate are being sent the appropriate number of task inventory booklets. A sample of clerical workers employed by governmental agencies (Federal, state, and local) is also being surveyed.

The general sampling procedure in the food service area is the same as that outlined above. The major difference is that a sample of firms and agencies is being selected from the following categories:

1. Eating places
2. Hotels, motels, and tourists courts
3. Hospitals
4. Sanitoria, convalescent and rest homes
5. Public schools
6. Colleges and universities
7. Military bases

After the surveys have been completed, the data will be analyzed by V-TECS. The results will provide a sound basis for developing the catalogs of performance objectives and criterion-referenced measures.

PROBLEMS OF RECIPROCITY AND CERTIFICATION IN THE SOUTHERN REGION

J. Alex Hash*

Introduction and Background

As you all know, a shortage of qualified teachers of vocational agriculture has existed for several years. This has been true in nearly all states for at least the past nine years. In February, 1973, Woodin (3, p.1) wrote:

> This is the eighth annual report of teacher supply and demand; and like the first year in which the study was made, there is still a shortage of teachers of vocational agriculture even though there is an adequate supply of teachers in many other areas.

A portion of Table VIII (3, pp. 14 & 6) from Woodin's study in 1972 lucidly depicts the serious shortage of teachers of vocational agriculture in the Southern Region. There was a total of 72 teachers still needed on August 1, 1972. Eight of the thirteen states in the region were short of teachers and this shortage ranged from two in Alabama and Mississippi to thirty in Florida. In addition, Virginia still needed 14 teachers and Georgia and North Carolina needed 8 each.

In four Southern Regional surveys regarding placement and estimates of demand for B.S. agricultural graduates by Glazener (2), Agricultural Education ranked first as the area of strongest demand three out of four years from 1969-72. For the remaining year, 1971, Agricultural Education ranked a close second just behind Food Science.

These surveys were based on B.S. graduates for 1969-72 and were compiled each July in the years of 1970-73. These number one and two rankings were achieved within a list of nine (1969-70) to a list of eleven (1971-72) areas of strongest demand.

Although approximately two-thirds of the thirteen states in the Southern Region usually experience a teacher shortage, some states such as Kentucky, Oklahoma, and Texas have produced a surplus of teachers in the past. In light of these facts, another quote from Woodin (3, p.3) appears pertinent here. He says:

> State supervisors should encourage teachers to cross state lines to other states where shortages exist. Efforts should also be made to make salaries of teachers competitive with other fields which they might enter.

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This last statement is also significant when we consider that the Southern Region has been placing less than half of its graduates in teaching vocational agriculture. The percentage placed in teaching was 45.8 in 1970, 51.5 in 1972, and 48.2 in 1973. This is much lower than the Pacific Region which placed almost two-thirds of its graduates in teaching during the same period. It is also lower than the Central Region and lower than the North Atlantic Region for the year 1973.

Objectives and Sources of Data

In view of the introduction and background related to this problem and because I volunteered to undertake this study while attending the 21st Southern Research Conference at Mississippi State University, it was launched July 30, 1973. The study was designed to clarify the certification situation and possibly facilitate an orderly transfer of prospective teachers from one state to another without penalizing teachers and by reducing the red tape involved in certification.

The specific objectives of the study were:

1. To determine the extent of reciprocity in teacher certification existing within the Southern Region.

2. To identify the major obstacles in certifying teachers from across state lines.

3. To ascertain recent trends in vo-ag teacher certification.

Data were collected by mailed questionnaires sent to head state supervisors and teacher educators in every teacher training institution in the Southern Region including Puerto Rico. A follow-up letter and a second questionnaire were mailed to non-respondents on November 20, 1973.

These two mailings resulted in replies from 11 out of 14 state supervisors for a percentage return of 78.6. On the other hand, replies were received from 27 out of 38 head teacher educators and/or their representatives for a percentage return of 71.1. The combined overall returns were 73.1 percent. However, every state except Puerto Rico was represented in the data collected.

My Southern Regional study in 1973 essentially confirmed the findings of Woodin in 1972 reported earlier in the previous section. I found that seven states were experiencing a severe shortage of teachers of vocational agriculture on approximately September 1, 1973. These states were: Arkansas, Florida, Georgia, North Carolina, South Carolina, Tennessee, and Virginia. In addition, Alabama was slightly short of teachers.

Conversely, four states reported that supply and demand were approximately equal. They were Kentucky, Louisiana, Mississippi, and Texas. Only one state, Oklahoma, reported an unequivocal surplus of teachers of vocational agriculture.

Extent of Reciprocity in Teacher Certification at Present

First, let me begin this section by defining true reciprocity. Conceptually, reciprocity is an arrangement between two parties for mutual advantage, as nations in permitting each others goods to pass the border without paying tariff. Reciprocity is operationally defined as an agreement between two states which gives automatic certification to teachers in both states specified within the reciprocal agreement. In effect, each state says: I'll accept your certification as valid in my state without additional requirements if you'll accept my certification as valid in your state.

What is the extent of reciprocity in teacher certification at present? According to my research, North Carolina has the most formal and extensive reciprocity plans in operation of any state in the Southern Region. Briefly, let me summarize North Carolina's reciprocity plans.

> Programs of teacher education in out-of-state institutions are recognized to the extent that they are equivalent to North Carolina's standards and guidelines. The state recognizes four teacher education and certification reciprocity approaches as outlined below (1, p. 1).

Plan I: Reciprocity based on accreditation by the National Council for Accreditation of Teacher Education (NCATE)

Graduates from out-of-state institutions accredited by NCATE at the time of graduation are eligible for a North Carolina Teaching Certificate, provided they meet five additional conditions. One of these conditions is: "The recommendation for certification is supported by an official transcript supplied by the institution." In my view this is not true reciprocity but it is a form of reciprocity.

Plan II: Reciprocity based on Interstate Agreements

> In several states, including North Carolina, legislation has been adopted which gives the state education agency the authority to make interstate contracts. This means that two or more state superintendents or commissioners of education might sign a contract whereby they agree to accept each others' teachers (1, pp. 1 & 2).

North Carolina has a reciprocal agreement with 22 states under Plan II. These include Florida, Kentucky, and Virginia in the Southern Region.

Plan III: Reciprocity based on approval by NASDTEC

> The National Association of State Directors of Teacher Education and Certification (NASDTEC) with financial support from the U.S. Office of Education has developed and adopted standards for state approval of teacher education. Including North Carolina,

twenty-one states meet the standards of the Association and have agreed on a voluntary basis to a reciprocity plan for initial certification (1, p. 3).

Five states from the Southern Region presently coming under Plan III are Georgia, Kentucky, North Carolina, Oklahoma, and Virginia. This list may be incomplete because other states of which I am unaware may have been approved by NASDTEC.

Plan IV: Reciprocity based on programs not accredited by NCATE or approved through the Interstate Agreement or the NASDTEC Plan

> Records of applicants prepared by out-of-state institutions that are accredited by their state boards of education or a regional accrediting agency but not by NCATE or recognized through any other reciprocity procedure will be evaluated according to the certification requirements in North Carolina (1, p. 3).

Six other stipulations are spelled out under Plan IV. Two of the strictest are that the applicant must hold the highest grade certificate in another state based on the bachelor's degree and the reciprocity certificate shall be valid for only one year before meeting the regular North Carolina requirements. Plan IV does not meet the definition of reciprocity at all in my opinion. It is similar to what most states have been doing for years, if they needed more teachers. If anything, Plan IV is more restrictive than what most states demand from out-of-state teachers for certification. It may be good for regular teachers during these days of surplus, but it is unrealistic for vo-ag teachers with our present shortage.

I am sure much more reciprocity in teacher certification exists within the Southern Region than included in the North Carolina plans. However, the respondents from other states who indicated they had reciprocity were very vague and failed to provide the investigator with requested copies of reciprocal agreements. Therefore, about the only other reciprocity that can be fully documented by this study is that based on NCATE accreditation between member institutions which is similar to North Carolina's Plan I. Although 18 institutions reported they were accredited by NCATE, only 5 mentioned this accreditation was used as a basis for reciprocity in teacher certification. These five institutions were Florida, Georgia, North Carolina, Mississippi, and Oklahoma.

From analyzing these data, it became clear that many state supervisors and teacher educators alike do not know what their state departments of education are doing with regard to reciprocity. This was further emphasized when discrepancies between state supervisor and teacher educator responses from the same state regarding reciprocal agreements were detected. For example, inconsistencies occurred between state supervisors and teacher educators in Florida, Georgia, Mississippi, and Texas. Moreover, teacher educators in Florida, Georgia, Kentucky, and Oklahoma did not appear to be cognizant of their reciprocity agreements with North Carolina under Plan II and/or Plan III.

Major Obstacles in Certifying Out-of-State Teachers

This study was undertaken on the premise that reciprocity among the states might be the simplest way of certifying teachers from across state lines. Therefore, the following question was posed to the respondents: "Are you personally in favor of reciprocity in vo-ag teacher certification among the states in the Southern Region? Yes or No and Why?" Eight of the 11 state supervisors replied yes, one was not sure, one gave no answer, and one said: "not necessarily, I want to be sure we have some standards." Among the teacher educators, 25 of the 27 said yes, one was neutral, and one was undecided. Therefore, 86.8 percent of the respondents were in favor of reciprocity.

Thus, it would appear that the vast majority favor reciprocity and their lack of endorsement would not be an obstacle. However, it is not quite that simple; many of those in favor of reciprocity stipulated certain conditions that must be met. Most of their concerns can be summarized by the state supervisor who said: "I want to be sure we have some standards." Two other state supervisors said: "Yes with selected institutions," and "if standards are held high in each state, I see no reason for penalizing teachers with such strict requirements."

Two teacher educators stated: "Yes, if they are well trained both technically and professionally," and "yes, but we must have agreement on a basic core of courses." Some advantages of reciprocity cited were: "It aids in balancing supply and demand and creates flexibility and mobility in placement;" "it would help in getting agreement on competency-based certification;" "to provide more opportunities for placement in states experiencing shortages;" and "as long as some states have a critical shortage while others have an excess, a reciprocal agreement would help to maintain and expand agricultural program offerings."

In spite of the latter advantages enumerated, the major obstacle to certifying out-of-state teachers by reciprocity is maintaining high standards of excellence. How can this be ensured? Georgia seems to have a relatively simple but comprehensive provision for certifying out-of-state teachers. It provides safeguards for overall quality of training institutions and guarantees personal quality of the individual teacher as well. Georgia will award the Teacher's Professional Four-Year (T-4) Certificate to out-of-state graduates when the following three conditions are met:

(1) The institution is accredited by one of the six recognized regional accrediting agencies.

(2) The institution is approved by the National Council for Accreditation of Teacher Education (NCATE) and

(3) The responsible official of the institution recommends professional certification, verifying that the applicant has completed successfully the teacher education program in the specific field for which certification is requested.

How would Georgia's plan work for all the states in the Southern Region? In my opinion, conditions 1 and 3 are fine but condition 2 is too restrictive in view of the fact that nine institutions in the region have not been accredited by NCATE yet. I would prefer to see condition 2 modified so that NCATE or NASDTEC or an Interstate Agreement would be sufficient for certification.

Another obstacle to certifying out-of-state teachers in South Carolina is that acceptable scores on the National Teacher Examination are required for certification. It appears that these scores will continue to be required for initial certification purposes, although teacher pay will not be directly influenced by them as in the past.

Recent Trends in Vo-ag Teacher Certification

Twenty of the teacher educators reported certification requirements had been modified within the past three to five years, while 7 reported there had been no change. I have some reservations concerning the reliability of responses with three of the Texas institutions reporting no change included in these seven, because the state director of Agricultural Education in Texas said certification requirements had been changed and so did the assistant director of teacher education.

Nine of these twenty changes in certification included a provision for a minor field of specialization in technical agriculture. These institutions are Auburn, Clemson, East Texas State, University of Georgia, Murray State, Oklahoma State, Southwest Texas State, Tarleton State, and University of Tennessee at Martin. Two states, North Carolina and Texas, reported their state legislatures had mandated competency-based teacher certification in the near future.

Other certification changes reported included recognition of experience as a substitute for course work, a reduction in the number of credit hours required for graduation, and more reciprocity because of a shortage of teachers.

Conclusions

1. Much more reciprocity already exists within the Southern Region than many of us realize.

2. Many state supervisors and teacher educators alike are not fully familiar with the reciprocity and teacher certification plans in their own states.

3. North Carolina's reciprocity Plan II based on Interstate Agreements and Plan III based on approval by NASDTEC come closest to achieving true reciprocity. However, Plan I based on approval by NCATE is also useful for reciprocity in teacher certification.

4. Approximately 87 percent of the respondents favored reciprocity in teacher certification.

5. Georgia's procedure for certifying out-of-state teachers appears practical if approval by NCATE can be broadened to include either NCATE or NASDTEC or Interstate Agreements.

6. At least 74 percent of the teacher education institutions reported certification requirements had been modified within the past five years.

7. Forty-five percent of these modifications included provisions for a minor field of concentration in technical agriculture.

8. All teacher education institutions in the region reported they were accredited by either the Southern Association of Colleges and Schools or the North Central Association.

Recommendations and Implications

1. There may be fewer barriers to certifying teachers from across state lines than we have imagined.

2. Each state supervisor and teacher educator should become thoroughly familiar with the reciprocity and certification plans in their own state. This will increase their effectiveness in recruiting out-of-state teachers.

3. Georgia and North Carolina's plans for certifying out-of-state teachers should be carefully studied by other states. The best features of both should be incorporated within reciprocity plans between other states.

4. Reciprocity agreements should not be negotiated between states by state superintendents and/or commissioners of education but by heads of teacher education and certification divisions within State Departments of Education.

5. All teacher education institutions not presently accredited by NASDTEC and NCATE should work toward accreditation by these two agencies in order to facilitate reciprocity in teacher certification within the region.

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ANNUAL LOCAL EVALUATION OF VOCATIONAL AND TECHNICAL EDUCATION IN VIRGINIA

Donald E. Elson*

The Annual Local Evaluation procedure has been developed, field tested and implemented statewide in Virginia. The major purpose of the Annual Local Evaluation is to improve vocational education. The procedure has been developed to meet the following objectives:

1. To determine the extent to which the local vocational education program is meeting the needs of the youth and adults in the school division.

2. To assist the local division superintendent and his staff in evaluating and planning for vocational education.

3. To provide a means by which the local vocational teachers have direct input into the evaluation and planning of the local vocational education program.

4. To serve as a basis for the school division's annual update of the five-year plan.

Program evaluation may be defined as the process of gathering and analyzing those data necessary for appraising alternatives. The decisions reached on the alternatives provide the basis for planning and improving vocational education.

Program evaluation is a cooperative endeavor of all those concerned with improving vocational education. Local teachers as well as the administrators, the students, the former students, the employers and the lay public must all actively participate in the evaluation of the local vocational education program.

The extent to which the needs of all youth and adults are being met must be determined. The three major aspects of vocational education--orientation and exploration, occupational preparation and consumer and homemaking education--must be considered while placing stress on the regular, disadvantaged and handicapped secondary and adult students to be served. Program evaluation therefore, must be systematic procedure which places emphasis on the total offerings of vocational education by the school division as well as the individual vocational programs.

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Initial work on developing the Annual Local Evaluation procedure began in January 1973. A procedure for evaluating local vocational programs was developed and field tested in four school divisions in the spring of 1973. The procedure for evaluation was revised based on the results of the field test. Subsequent revisions were made based on the recommendations of such groups as the state vocational education supervisory staff and the local directors of vocational education. Statewide implementation of the Annual Local Evaluation procedure took place on April 1, 1974 on an optional basis. Participating school divisions were to file a report of their evaluation with the Division of Vocational Education, State Department of Education, on July 1, 1974.

The Annual Local Evaluation procedure incorporates program standards in the form of guidelines. The local vocational program is rated by each vocational teacher on the extent to which the program meets these guidelines. The guidelines include standards related to the objectives of the program, the performance objectives used in the classroom, the needs of the students, the program completions, the instructional materials and the equipment and facilities. The rating scale for the guidelines includes four levels: major improvement needed, improvement needed, program meets standard and program exceeds standard.

The rating given to each guideline by the teacher provides the basis for listing the major strengths and major weaknesses of the program. The final step at the individual teacher level is for the teacher to list his recommendations for improving the vocational education program. The ratings of the guidelines, the listing of the major strengths and weaknesses, and the recommendations for improving the vocational program developed by the teachers form the basis for the update of the five-year plan for vocational education.

Decisions by committees with individual input by teachers are important in evaluation. Committees should be established at the department, school, and division levels. Teachers, supervisory personnel and a representative of the administration should be included on each committee. The use of advisory councils becomes an important part of the evaluation procedure at this stage. Each committee should have an advisory council to assist them in making the recommendations for their respective levels. The organizational structure and the flow of data and recommendations are presented in Figure A.

The recommendations developed by the teachers are analyzed by the department committee. The committee, with the advice of the department advisory council, makes a set of recommendations for the vocational programs in the department and sends them to the school committee. After analysis of the recommendations from each vocational department, analysis of other relevant data, and advice from the school advisory council, the school committee develops and submits a set of recommendations for vocational education in the school to the division committee.

Reports from each school are reviewed and analyzed by the division committee. The division committee is responsible for the final set of

recommendations for vocational education in the school division. The annual update of the five-year plan for vocational education is developed from this final set of recommendations. The division committee must reach decisions based on these recommendations. Reevaluation of the data may be required in order to revise the recommendations if the original recommendations do not provide realistic alternatives for updating the five-year plan for vocational education.

The over-all efficiency and effectiveness of the procedure is currently being evaluated. Seventy-four school divisions indicated in April that the procedure would be used to evaluate their vocational education programs. Reports have been received from 56 of the divisions. Reaction to the procedure has been favorable. Based on this evaluation, the Annual Local Evaluation procedure will be modified for use annually in all school divisions in Virginia.

Through the use of this evaluation procedure, the data supplied by the teachers can be analyzed along with additional evaluative data from the various administrative levels to reach sound decisions regarding the possible alternatives available to the school division. Systematic program evaluation has a very important role in program planning; in fact, it may be viewed as providing the foundation upon which program planning is built.

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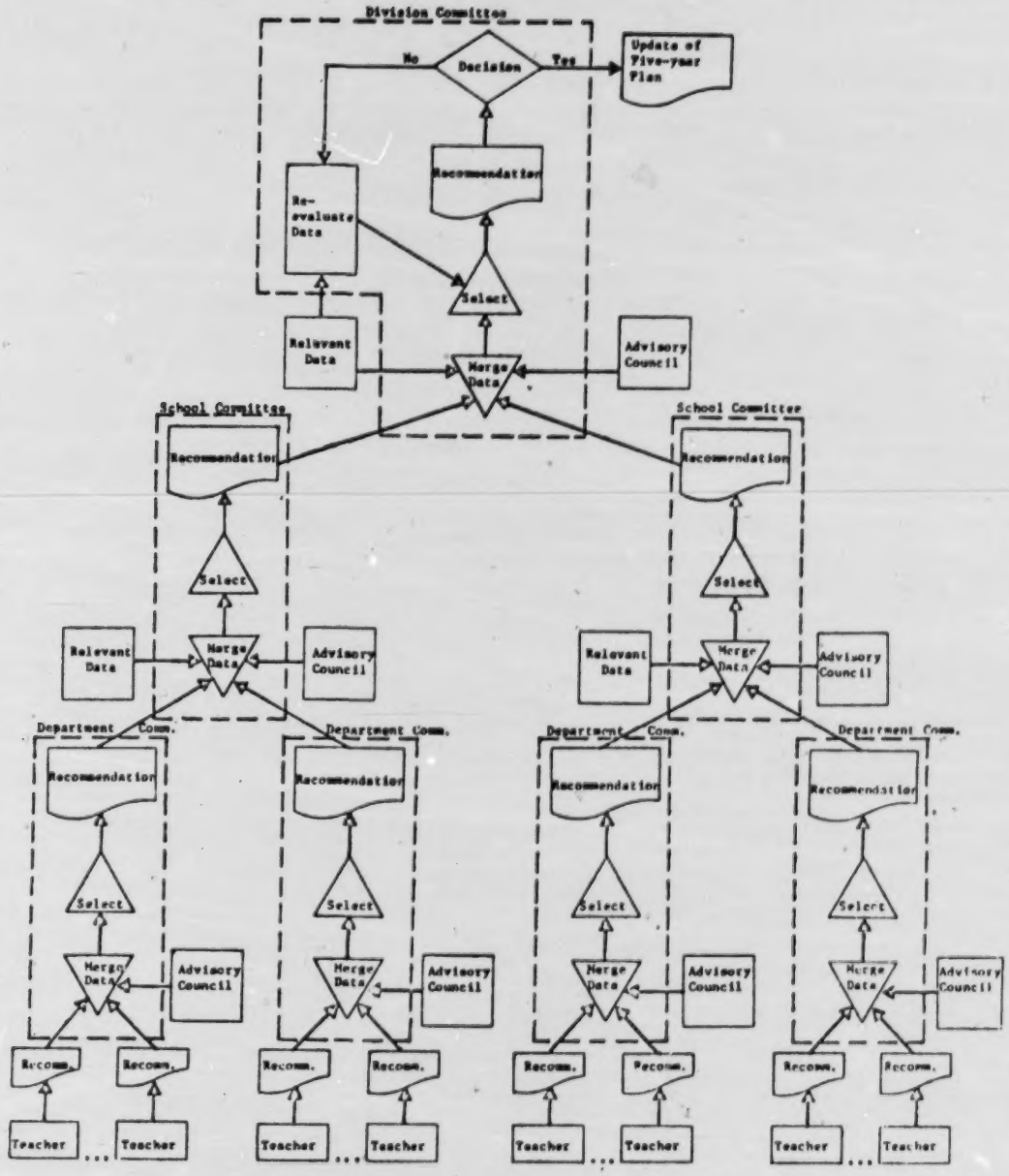

FIGURE A

ORGANIZATIONAL STRUCTURE OF ANNUAL LOCAL EVALUATION PROCEDURE
FLOW OF DATA AND RECOMMENDATIONS

PRE-TEACHER ATTITUDES TOWARD THE CONCEPTS OF CLASSROOM TEACHING AND HIGH SCHOOL STUDENTS BEFORE AND AFTER VIDEOTAPING A MICRO LESSON WITH A GROUP OF HIGH SCHOOL STUDENTS

John R. Crunkilton*

The climax of any undergraduate teacher preparation program is reached when college students (pre-teachers) leave the university campus for the local schools to participate in the student teaching experience. The weeks that pre-teachers engage in student teaching is crucial to the development of sound teaching procedures and practices. But before these pre-teachers reach their student teaching quarter, they should have developed an understanding of the behavior and learning habits of the high school students and have also developed an understanding of the teaching-learning atmosphere which should exist in a classroom situation.

Attempts have been made in the past few years at Virginia Tech to help develop in pre-teachers an understanding of the high school students and the desirable teaching-learning atmosphere which should exist in a classroom through simulation exercises.

This procedure resulted in what I believe to be some strengths of the program, but also, some critical weaknesses appeared. These could be summarized as follows:

Strengths

1. Forced pre-teachers to get before groups
2. Built pre-teacher's confidence
3. Identified distracting mannerisms
4. Identified speech problems
5. Pre-teachers simulated role of the teacher

Weaknesses

1. Pre-teachers tended to teach at their peer level of understanding
2. Technical material was covered too fast

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3. Simulated atmosphere was not very realistic

4. An understanding of the high school student's abilities and interests was not developed

Thus, since the development of pre-teachers' understanding of the high school student and a desirable teaching-learning atmosphere did not exist, a mini research project was developed and funded by the Small Research Grants committee in the College of Education.

The purpose of the study was to determine the appropriateness of preparing pre-teachers by video taping a micro lesson with a group of high school students. Appropriateness was operationally defined as a resultant directional change in the pre-teacher's attitudes toward the concepts of classroom teaching and high school students.

Null hypotheses were stated that no differences in attitudes of pre-teachers toward the concepts of classroom teaching and high school students would occur between pre- and post-tests at the .05 level of significance.

Methodology consisted of a pre-test given to the pre-teachers before teaching a 30 minute micro lesson to a group of high school students while being video taped. The presentations took place in a local high school and the high school students each received $5.00 for a two and one-half hour taping session.

Results showed that a significant difference in attitude did not occur for the classroom teaching concept but a significant change in attitude did occur on the concept of high school students.

Recommendations made were to continue the video taping sessions with high school students serving as class members. The recommendation was also made that additional efforts should be made to provide more pre-teacher high school student contact before the student teaching quarter.

The report of the complete study was distributed and is available upon request.

EVALUATION OF THE TEXAS PRE-EMPLOYMENT LABORATORY PROGRAM IN FARM MACHINERY SERVICE AND REPAIR FOR TRAINING MECHANICS AT THE HIGH SCHOOL LEVEL

James E. Christiansen*

(Editor's Note: The presentation by Dr. Christiansen was on research being conducted by Earl S. Webb, Professor, and Chester L. Darcey and Larry Kronke, Research Assistants, Department of Agricultural Education, Texas A & M University.)

Purpose

The purpose of this study was to evaluate selected aspects of the Pre-Employment Laboratory Program in Farm Machinery Service and Repair in the State of Texas.

Procedure

Cards were sent in the fall of 1973 to the vocational agriculture teachers of those 75 departments across Texas with pre-employment laboratory programs in farm machinery service and repair asking if they would be willing to help in the study by supplying names and addresses of students who had taken the tractor mechanics course. A form was then sent to the vocational agriculture teachers responding to the first card on which they listed the students' names and addresses and subsequently returned to the investigator. This was the initial method by which names and addresses were acquired. Steps one and two above were repeated for those teachers who did not respond to the original request.

Inquiry cards were next sent to each of the 201 names received from the vocational agriculture teachers to see if these individuals would help by completing a questionnaire which would be sent to them. Finally, questionnaires were sent to those individuals who had indicated that they would help.

Inquiry cards and questionnaires were repeated to those former students who did not respond to the first card or questionnaire. All data for the study were collected using the procedure outlined above.

Of the 75 teachers contacted, 30 agreed to furnish names and addresses of their former students for a 40% response. Of the 201 persons listed by those 30 teachers, 77 returned useable questionnaires for a 38.3% response from the former students.

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Summary of Data

The following highlight the findings of the study with respect to the 40 factors investigated.

Of those 77 respondents who returned usable questionnaires, 32 or 41.6% were working as mechanics at the time the study was made. Twenty-seven of the remaining 45, or 35.1%, had worked as mechanics but were no longer working as mechanics. Eighteen, or 23.4%, had never worked as mechanics.

Of those 59 persons who were now working or who had worked as mechanics responding to the question, "How many mechanics jobs had they applied for before becoming employed as a mechanic," 84.7% got the first job for which they applied. Only one individual applied for as many as three jobs before being hired, and three individuals applied for two jobs before employment.

Of these same 59 respondents, 81.3% were or had been employed in a commercial business. Of this same group, 61.0% were classified as mechanics, 23.7% as mechanic's helpers, and 5.1% as shop foremen.

Approximately one-third, or 30.5%, of the respondents who were employed as a mechanic or had been employed as a mechanic were employed in a business having five or more mechanics employed.

Those respondents who were working as mechanics or who had worked as mechanics most often performed as general mechanics. This is to say that they did not specialize in areas such as engine tune-up or overhaul. It is interesting to note here that 50.7% most often worked as automotive mechanics although only 12 or 15.6% of the respondents had taken an auto mechanics course in high school.

The salary of those respondents who had worked as mechanics and those who were currently working as mechanics ranged from less than $75 to $199 per week with 77.9% falling in categories of $124 per week and below. Fifteen of the respondents were in the $75 or less per week category representing 25.3%, and another 16 or 27.2% were in the $75-99 range.

The question was asked of all respondents as to what was their father's occupation while the respondents were in high school. The responses were arranged into the seven categories of skilled, semiskilled, service, former business, professional, and deceased. The largest category checked was that of "skilled" making up 37.7% of the total.

Sixty-one percent of all the respondents reported they had lived on a farm while in high school. The remaining 39% reported that they lived in town.

Almost half of the respondents, 49.1%, were not influenced by anyone to become mechanics. However, 30.5% reported that their father had influenced them to become a mechanic.

Interesting was the fact that 37.3% of the respondents reported that no one had assisted them in becoming employed as a mechanic. It was also interesting to note that no high school counselor or principal assisted respondents in becoming employed. Only 13.6% reported that the vocational agriculture teacher had helped them become employed.

Of those respondents working as mechanics, 90.6% went to work directly out of high school without additional training. Although only about 10% were required by their employers to attend further training, 43.7% attended training schools offered by their employers.

The respondents, for the most part, felt that the tractor mechanics course in high school had prepared them sufficiently to become employed as mechanics. Eighty-three percent of the respondents felt that they were "well" to "fairly well" prepared to be employed as a mechanic as a result of their having had the tractor mechanics course in high school. In point of fact, 44.1% felt that they were given special consideration by their employer for employment. The reason most often given by the respondents for this consideration is that the tractor mechanics course had given them previous experience.

The respondents who were no longer working as mechanics were asked the reason for terminating their employment as a mechanic. The main reason seemed to be a matter of interest. The second most common reason given was that the pay was too low.

One part of the study was directed to determing the adequacy, suitability, and use of text and reference materials in the programs. Concerning the use of textbooks, it was found that 71.4% used a text and 28.4% did not even have a textbook. Of those respondents who had used a text, the frequency of use varied. Seventeen or 21.1% of the respondents reported as having seldom used the text, and 18.2% used the text about once a week. It might be speculated that the large number not having a text, and those seldom using what text they had, may have been either a result of a lack of a suitable text or possibly the greater use of technical bulletins and manuals. Most of the respondents, 64.9%, believed that the availability of service manuals and technical bulletins was adequate in the high school shop. However, approximately thirty percent (29.9%) reported them to be inadequate, and 5.2% were undecided on this question.

The respondents were asked for their perception of how the high school tractor mechanics course prepared them to understand mechanical principles and to perform various skills. There tended to be four primary areas in which all felt that their preparation was generally lacking. These areas were diesel engine and injector systems, hydraulics, transmission repair, and differential principles and operations.

Suggestions of respondents as to how the tractor mechanics course could better prepare students for employment in the field of mechanics included requests for more instruction in the following areas: hydraulics, transmissions, differentials, diesel engines, diesel injector systems,

electrical systems, and fuel systems. Incidentally, other suggestions made included pleas for better qualified instructors, some type of student selection criteria, availability of newer tractors, longer class periods, an opportunity to work on different makes of tractors, expanding the program to a two year course, more shop space, presence of a paint room, more use of tools and instruments, and more instruction on mechanical procedures.

In conclusion, no attempt should be made to generalize the findings of this study at this particular time.

REPORT FROM THE NATIONAL COMMITTEE ON AGRIBUSINESS COMPETENCIES

Jasper S. Lee*

The trend in vocational education toward training people for specific occupations has presented the need for determining the exact activities people in these occupations perform at work. The activities are often stated as competencies. Competency refers to knowledge and skill as related to job performance. Once the competencies required in an occupation are known, performance objectives are developed to ensure that the necessary instruction is provided by the school. The National Committee on Agribusiness Competencies is concerned with this area of work, specifically as related to competency determination.

Background Information

The National Committee on Agribusiness Competencies has been functioning since June, 1973. It grew out of a larger committee established about six years ago by Mr. H. N. Hunsicker of the U.S. Office of Education. This larger committee, known as the "National Committee on Employment and Training Needs in Agriculture," had three objectives:

(1) to identify the agricultural occupations in U.S. Census data and the number of persons employed.

(2) to project employment needs in agricultural occupations to 1980 and beyond.

(3) to encourage the Bureau of the Census and the Department of Labor to more accurately identify all agricultural occupations.

The National Committee on Agribusiness Competencies (NCAC) was established to assist the older committee in achieving its objectives. The NCAC has met three times (June, 1973; December, 1973; and May, 1974) and is attempting to coordinate a national project aimed at identifying and validating competencies. It is composed of agricultural education personnel from a large number of states, Specifically, the NCAC is involved in:

(1) Identifying agricultural occupations at levels below mid-management in the seven occupational sub-clusters of agricultural production, agricultural supplies/services, agricultural products, forestry, ornamental horticulture, agricultural mechanics, and natural resources and environmental protection.

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(2) Determing the competencies needed in entering the occupations identified in (1).

(3) Validating on a national scope the competencies determined for each occupation.

(4) Coordinating the competency listing and assembling the completed work.

(5) Preparing a final report and distributing copies to all states.

Dr. David McClay of the Department of Agricultural Education at The Pennsylvania State University is serving as chairman of the Committee. His role is to serve as a central person to whom interested persons can inquire about occupational areas for possible research, to receive completed competency studies, and to distribute copies of the completed studies.

Assignments and Responsibilities

Many areas of occupations in agriculture have been assigned to agricultural education personnel in various states. Progress in the states has depended upon the availability of state and local monies for the research. (The NCAC has no funds. However, contact has been made with the U.S.O.E. in an attempt to get funds for competency listing in agriculture.) Several occupational areas are still in need of persons interested in developing the competency lists. Also, it is likely that states earlier making commitments have found that the needed funds are not forthcoming. All states can share in this project and are invited to do so.

Procedures Utilized in Competency Listing

The NCAC is primarily concerned with the identification of occupations and validation of competencies for the occupations. A procedure to insure uniformity has been established. It is based on a procedure originally developed at the Pennsylvania State University and modified by the Committee. Currently, the NCAC is not concerned with developing performance objectives as it is felt that competency listing is the most pressing area of need. The development of performance objectives will be a later activity.

Summary

The NCAC is attempting to conduct a national project in competency listing for agricultural occupations. Persons interested in participating should contact Dr. David McClay, Department of Agricultural Education, 102 Armsby Building, The Pennsylvania State University, University Park, Pennsylvania 16802, Telephone (814) 863-0443.

RESPONSIBILITIES
FOR
AGRICULTURAL OCCUPATIONS COMPETENCY LISTING

A. Agricultural Production Sub-Committee
Ramsey Groves, Colorado, Chairman

Area	State Responsible	Person Responsible
Animal Science		
Beef Cattle	Colorado	Cross
Sheep	Colorado	Cross
Swine	Iowa	Crawford
Horses	Texas	Holcomb
Dairy	Minnesota	Leske
Poultry	Georgia	Weaver
Small Animals	Ohio	Ridenour/Guiler
Field Crops		
Rice	Arkansas	
Corn	Nebraska	Horner
Cotton	Texas	Holcomb
Sugar Beets	Utah/Colorado	
Milo	Oklahoma	Terry
Soybeans	Iowa	Crawford
Potatoes	Idaho	Lawrence
Peanuts	Oklahoma	Terry
Sweet Potatoes	Louisiana	
Vegetables	Kentucky	
Tree Fruit	Michigan	Trotter
Small Fruit	Kentucky	Binkley
Tobacco	Kentucky	
Forage (Pasture, hay and silage)	New Mexico/California Kansas	

B. Agricultural Mechanics Sub-Committee
David G. Craig, Tennessee, Chairman

No specific assignments have been made.

C. Agricultural Supplies and Service Sub-Committee
Max Amberson, Montana, Chairman

Area	State Responsible	Person Responsible
Small Animal Care	Illinois	
Grain	Montana	
Hardware	Montana	
Petroleum products	Montana	
AI technicians	Wisconsin	
Agri-Chemicals	South Carolina/ Indiana	
Fertilizer, feed, seed	Montana/Minnesota/ Missouri	
Milk tester	North Carolina	
Inspector	North Carolina	
Auctioneer		
Fieldman		
Agricultural credit		

D. Ornamental Horticulture Sub-Committee
J. Glenn Morrill, Florida, Chairman

Area	State Responsible	Person Responsible
Arboriculture	New Jersey	John Grover
Floriculture	Rhode Island	Donald E. McCreight
Landscape	West Virginia	W. G. Kelly
Nursery Operation and Management	West Virginia	W. G. Kelly
Turf	Florida	J. G. Morrill
Greenhouse Operation and Management	Washington	Art Nelson

E. Natural Resources and Environmental Protection
David R. McClay, Pennsylvania, Chairman

Penn State has assumed the responsiblity for this instructional area.

F. Forestry Sub-Committee
Tom Ellis, Mississippi, Chairman

Area	State Responsible	Person Responsible
Forest production	Mississippi	Oren
Forest protection	New Hampshire	Paul
Logging, hauling, and transporting	Mississippi	Oren
Wood utilization	Virginia	Lee
Recreation	Pennsylvania	McClay
Special products:		
Christmas trees	Washington	Nelson
Maple syrup	New Hampshire	Paul
Nuts	Georgia	Weaver

G. Agricultural Products (to be assigned)

NATIONAL AGRICULTURAL OCCUPATION
COMPETENCY PROJECT

PROCEDURES TO FOLLOW IN
IDENTIFYING COMPETENCIES IN AGRICULTURAL OCCUPATIONS
FOR EACH OF THE SEVEN INSTRUCTIONAL AREAS IN AGRICULTURE

1. Compile a complete list of occupations for each employment area under the instructional area selected. (See USOE publication Standard Terminology for Curriculum and Instruction in Local and State School Systems.)

2. Classify the occupations as skilled, technical and/or managerial, or professional.

3. Select skilled, technical and/or mid-management occupations most students are likely to enter and limit this to a manageable number of occupations (two to five should fit most employment areas).

4. Prepare job descriptions for each of the selected occupations.

5. Using the occupations selected list all possible competencies through job and task analysis.

6. Select an Employer-Employee Review Group (E.E.R.G.) of 4 or 5 persons from within your state for pilot study purposes.

7. Interview the pilot study E.E.R.G. and have them review the survey instrument and classify the importance of the competencies.

8. With the information obtained in the pilot study, revise the questionnaire adding any newly identified competencies and eliminating those competencies considered of no importance.

9. Select an E.E.R.G. of 15-20 persons including trade organization personnel representing all geographical areas of the U.S. for a mail survey.

10. Have the E.E.R.G. classify the importance of the competencies according to the following scale:

Essential	Important	Of Some Importance	Not Important	Does Not Apply
4	3	2	1	0

11. Summarize N response of national E.E.R.G. survey for each competency and prepare a report of the findings.

74-78 (Revised 6-1-74)

NEEDED VOCATIONAL EDUCATION RESEARCH IN VIRGINIA AND THE REGION

Rufus Beamer*

Mr. Chairman and members of the Conference. I am pleased to be here this afternoon for at least the following reasons:

1. To renew my acquaintance with this Conference after a 12-year absence;

2. To see and to renew acquaintances with many of my friends and colleagues and to have the opportunity of making some new acquaintances; and

3. To share with you some ideas on research activities as I view them from the position of Executive Director of the Virginia State Advisory Council on Vocational Education.

My association with the Southern Regional Conference in Agricultural Education predates the formation of the Southern Research Conference in Agricultural Education. It has been my pleasure of being a conferee of this Conference on several occasions. The last time I attended was in 1962. I can remember that year very well because I was in the process of changing my employment from the University of Tennessee to VPI & SU, and the Conference was held here on Virginia Tech's campus.

Well, I don't want to go too far with this reminiscing or someone might appropriately observe that my age is showing! But I would like to make a couple of observations. The complexion of this Conference has changed considerably in the past several years. The group is somewhat larger, I believe. It has taken on a lot of new faces since its beginning. You look more sophisticated than the group I grew up with, and I feel completely safe in saying that your group possesses a much higher level of research competence. One other reflection or observation. I am not sure of the extent of this Conference's contribution to vocational education in agriculture through its research effort over the past years, but I feel reasonably sure in saying that they have been of some significance. I am one hundred percent sure that the potential of the Conference for advancing programs in vocational education through research is very great--almost unlimited.

It is not my purpose in my remarks to you this afternoon on "Needed Research in Virginia and the Region" to identify specific research problems. Rather, my attempt will be to identify problem situations or problem areas in the broad field of vocational education which I think need research attention. My rationale for taking this position is based on the assumption that research should help us in solving whatever the

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problems that confront us and thus should help us to move vocational education programs forward. If research does not focus on the real problems--the major problems of our time in vocational education--then it is my guess that the allocations of resources to research activities will decrease rather than increase and that, in my judgment would be a disaster.

Let me say just a word about State Advisory Councils on Vocational Education. I feel reasonably sure that members of this Conference are thoroughly acquainted with the functions and responsibilities of the State and National Advisory Councils on Vocational Education, but I would like to refresh your memories on a couple of our mandated responsibilities for the purpose of indicating to you why Advisory Councils must be greatly concerned with research activities in vocational education.

One of the major responsibilities of the State Councils is to evaluate vocational education programs, services, and activities under the State plan, and publish and distribute the results thereof.

Another responsibility is to prepare and submit through the State Board of Education to the Commissioner and to the National Advisory Council an Annual Evaluation Report.

Problem Areas in Vocational Education Needing Research Attention

Financing: This is one of the most critical areas in vocational education today, and the information available to people who must make judgments about the financing of vocational programs is inadequate, fragmentary and subjective. We need studies which would explore every facet of vocational financing--cost analysis, cost effectiveness, evaluations of present financial arrangements, etc. Vocational education administration needs to be much better informed than is now the case about this whole area of financing.

Administration and Governance: One of the real crucial issues in public education today is how to best organize and structure our educational institutions. What should be the organizational structure for vocational education in the educational institutions of a state? Are vocational educators placed at appropriate levels in the administrative hierarchy to articulate effectively the missions, needs, and priorities of vocational education? In most states, they are not. So, the problem is: What kind of an organizational structure do we need, and how do we go about getting it implemented? We must have organizational patterns that will allow those speaking for vocational education to articulate effectively and forcefully the needs of vocational education at the highest levels of decision making.

Articulation: Articulation of programs between the junior high schools and the high schools, between the high schools and community colleges, and among the high schools, apprenticeship programs, community colleges

and senior institutions should be researched and improved so that more students will be able to continue effectively their job preparation in breadth and depth as they move from one level of formal schooling to another. We see statements in the literature about community colleges needing to articulate upward and downward. The problem is how do we articulate upward and downward. There is room for a great deal of research in this problem area.

Marketable or Job Entry Skill: Many states have developed standards and policies which speak to job entry or marketable skills. Virginia, in its Standards of Quality and Objectives for public schools has a performance objective which states that"by June 1976, at least 90 percent of high school graduates not continuing formal education should have a job entry skill." Now the problem is: What constitutes a job entry skill? Research of this nature (indicating what students can do when they finish a particular program) is important, not only at the high school level, but equally important at the community college level, and it is necessary to effect the articulative programs between the high schools and community colleges.

Utilization of Facilities and Equipment: In the improvement and expansion of vocational education in a state we must concern ourselves with the utilization of facilities and equipment. We must be able to measure the utilization of a particular facility as a part of on-going program evaluation. The ultimate goal would be for the appropriate agency to identify causes of under or over-utilization. The ultimate outcomes of such studies would be of help in avoiding the unnecessary or unjustified construction of new or additional facitilies. At the same time the results could be expected to identify any need for additional facilities.

Vocational Education and Manpower Needs: There is a continuous need for studies of this type. Vocational Education programs should be designed to meet the manpower needs of a growing and changing labor force. These studies are needed on a school district basis, on a planning district or regional basis, and on a state basis.

Curriculum: All of the vocational education curriculums are in constant need of evaluation. We hear a good deal these days about competency based curriculums (e.g., competency based teacher education). My own judgment is that there is a great deal of merit to this approach to curriculum development, but in all honesty, I don't think we have gone very far in developing curriculums based on competence.

I think Advisory Councils support the competency approach. By and large the people serving on these Councils are practical people, and they are more concerned with competence than they are with diplomas, degrees, and certificates.

Follow-up Studies: These studies are critical in the evaluation of vocational programs. The Virginia Council has in its program of activities for F.Y. 1975 conducting a follow-up study involving employers or vocational education graduates from our comprehensive high schools, vocational-technical centers, and community colleges.

So far I have identified eight problem areas or vocational clusters that lend themselves to research considerations. There are others which I will just mention but not discuss:

1. Developing a master plan for vocational education in a state. (1202 commissions)

2. The need for and desirability of Residential Vocational Schools (Maryland).

3. Guidance and Counseling services provided by our schools.

4. Handicapped and Disadvantaged programs.

5. Establishing and using lay advisory groups.

6. Public Information.

7. Vocational student organizations.

8. Professional personnel certification requirements.

9. Others--

In closing, I would like to say that State Advisory Councils need information on every facet of vocational education (as it is and as it should be) in discharging their legislative mandates. They welcome your help and support.

ROLE OF PRINCIPALS OF VOCATIONAL-TECHNICAL CENTERS IN VIRGINIA AS PERCEIVED BY INCUMBENTS, SUPERINTENDENTS, AND TEACHERS

Elmer L. Cooper*

(Editor's Note: The presentation by Dr. Cooper was based on his doctoral dissertation completed in 1974 in Vocational and Technical Education at Virginia Polytechnic Institute and State University, entitled "Role of Principals of Vocational-Technical Centers in Virginia as Perceived by Incumbents, Superintendents, and Teachers.")

Purpose

The purpose was to determine congruence in the role of principals of vocational-technical centers in Virginia as perceived by incumbents, and their superintendents and teachers.

Method

A list of 78 items believed to be functions of principals of vocational-technical centers was identified from the literature and subjected to a jury of experts. The final instrument consisted of a list of 48 items with a Likert-type scale and questions to obtain demographic data. Twenty-three out of the 24 vocational-technical centers in the state were included in the study. The mailed instrument was returned by 23 superintendents, 23 principals, and 65 teachers. The teacher returns were from a 20 percent sample.

Means and standard deviations were obtained on each item for each of the three subgroups. Factor analysis of the items resulted in the identification of six factors underlying the 48 functions. A z-test was used to determine the differences between the sample of teachers, and the principals and superintendents on each factor.

Findings

The findings were as follows:

1. Principals and their superintendents had congruent perceptions of the role of principals of vocational-technical centers in Virginia.

2. Teachers viewed the role of principals differently than did superintendents and principals.

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3. Perception of the role of principals of vocational-technical centers by superintendents, principals, and teachers was not related to the size of the vocational-technical center; sex of staff members; years of formal education of staff members; years of experience as a vocational teacher; years of experience as an administrator of vocational programs; nor the years of work experience (in fields other than education) by staff members.

4. The 48 items in the research instrument constituted definite functions of principals of vocational-technical centers in Virginia.

The recommendations from the study were:

1. Present and prospective principals should be trained to perform the functions identified in the study.

2. Present and prospective staff personnel in role-defining groups should be made cognizant of the functions of the principal which were identified.

3. Teachers and administrators in vocational-technical centers should review the functions of the principal to locate and resolve any incongruences of perception which may prevail.

4. Studies should be conducted to determine specifically the research competencies needed by principals.

5. Research should be conducted to determine the functions of principals of vocational-technical centers which are common to other positions in vocational education.

6. The study should be replicated using a multi-state sample so that the findings can be inferred nationwide.

7. A study of the more controversial functions of the principal should be conducted.

8. A more comprehensive list of functions of principals should be identified to provide a basis for preservice and inservice education.

9. A study of the priorities placed upon various functions by role-defining groups should be conducted with emphasis upon the perceived priorities versus the actual priorities.

10. A study should be conducted to determine why superintendents and principals tend to have congruent perceptions of the principal's role, while teachers seem to perceive the role differently than superintendents and principals.

Summary of Functions of Principals of Vocational-Technical Centers in Virginia

1. Helping formulate the policies upon which the vocational-technical center operates.
2. Preparing administrative bulletins directed to the staff.
3. Interpreting occupational programs to parents and community.
4. Holding individual parent conferences.
5. Determining the best curriculum design and organization to achieve instructional goals.
6. Promoting coordination and balance between occupational and general education programs.
7. Evaluating the performance of teachers.
8. Evaluating and recommending for the promotion, retention, and termination of staff members.
9. Attending professional meetings away from the school during school hours.
10. Planning and conducting teachers' meetings.
11. Providing assistance in writing proposals for state-federal reimbursement of projects and programs.
12. Meeting with student groups.
13. Managing the school office.
14. Working with county, state, and federal agencies in developing and operating occupational education programs.
15. Interpreting financial and special needs of occupational education to the public and to the community served.
16. Helping formulate goals of the vocational-technical center.
17. Developing means for continuous evaluation of instructional programs.
18. Involving lay groups in program planning and evaluation.
19. Organizing and conducting workshops and other in-service activities for teachers.
20. Working cooperatively with supervisors and other school division level personnel to improve the instructional program.

21. Interpreting legislation related to occupational education to other school administrators.

22. Conversing informally with teachers such as at lunch time or in the faculty lounge.

23. Attending school functions, such as assemblies, plays and athletic contests.

24. Determing staff assignments.

25. Preparing reports for the higher administration.

26. Providing communication channels for the sharing of ideas and information among teachers.

27. Assisting PTA and other parent groups.

28. Helping determine objectives of specific programs.

29. Consulting teachers before initiating curriculum changes.

30. Observing teachers in their classrooms to improve instruction.

31. Interviewing teacher candidates and recommending for employment.

32. Dealing with disagreements among teachers.

33. Handling disciplinary cases.

34. Organizing the staff for effective counseling and guidance.

35. Cooperating with community organizations and agencies.

36. Dealing with disagreements between teachers and parents.

37. Dealing with disagreements between teachers and pupils.

38. Preparing budgets and effecting fiscal operating controls over school expenditures.

39. Locating community resources for program improvement.

40. Helping plan new instructional facilities.

41. Planning special education programs for disadvantaged and handicapped students.

42. Preparing communication releases for mass media.

43. Preparing promotional materials to explain occupational education to the lay public.

44. Analyzing student grade patterns.

45. Introducing new teaching methods to the staff.

46. Determining equipment and supplies needed to carry on effective vocational education programs.

47. Dealing with disagreements among pupils.

48. Checking for possible hazards to pupil safety.

A FOLLOW-UP OF VPI & SU'S 1968-73 NON-TEACHING AGRICULTURAL EDUCATION GRADUATES

Larry E. Miller*

Virginia is far above the national average of those agricultural education graduates who enter their profession; a 72.5 percent, 5-year average, as compared with 54.8 percent which is a rather stable national average from year to year. However, this does not defray the shortage of qualified agricultural education teachers needed in the State - presently over 20. In 1973, VPI & SU qualified 19 teachers of agricultural education, thirteen of whom taught, one of whom returned to the farm and four returned to VPI & SU to do further graduate work.

Many more teachers are needed each year. We currently could place 50 to 60 teachers yearly. To help realize this needed supply a thorough recruitment campaign has been initiated. The current national oversupply of teachers in some areas of teaching has definitely been a detrimental contributing factor to recruiting more teachers.

An alternative procedure to supplying more teachers is to encourage more of those trained to teach to enter the profession. Therefore, the purpose of this study was to determine the reasons that graduates in agricultural education chose not to enter the profession, or entered the profession and subsequently chose to leave it.

The study utilized a survey questionnaire of the non-teaching agricultural education graduates, (N = 24) with the responding (data) sample being seventeen (N = 17).

The following generalizations resulted from the results of the study:

- the respondents had a mode of four years of high school agricultural education
- a mode of five years of FFA would contribute to the belief that they did not suffer from a lack of background
- three respondents had had experience as State FFA Officers, and they had held a wide variety of local offices
- nine were transfer students to VPI & SU from other institutions
- 24 per cent transferred to agricultural education from another College
- they decided on their major while they were in high school

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- the most commonly noted "influential other" was their high school gricultural ducation teacher
- the reasons they chose icultural ucation were a desire to teach students and the broad background the curriculum allowed
- the first job accepted by the majority of the group was in teaching gricultural ducation or other subjects
- none of the 1973 graduates entered the military service
- the four most frequently noted attractive features of gricultural ducation were (1) contact and working with rural people, (2) opportunity to live and work in a rural area, (3) contact and working with rural youth and (4) shop-work
- disliked features were (1) reporting procedures required of teachers, (2) lack of student interest, (3) lack of opportunity for advancement and (4) low salary
- to supplement the above findings, they noted their reasons for not teaching as (1) more personal freedom, (2) higher salary, (3) family situation and (4) too much "red tape"
- their suggestions for recruitment were centered around the high school gricultural ducation teacher placing greater emphasis on it
- they suggest that more hours of technical agriculture are needed in the curriculum
- in terms of professional education preparation they believed too much emphasis was placed on theory and not enough on the practical
- they questioned the value of general education courses
- they strongly supported student teaching
- they believed a strong positive relationship existed between the students and the VPI & SU gricultural ducation staff
- suggested improvements in the employment situation centered around salary, reporting procedures, working hours and pressure to teach students who do not have a vocational objective in agriculture
- thirty-five per cent indicated that they plan to teach gri-cultural ducation in the future.

EVALUATION OF OCCUPATIONAL HAZARDS IN AGRICULTURAL EDUCATION LABORATORIES IN VIRGINIA

Robert A. Wall*

(Editor's Note: The presentation by Mr. Wall was a report on a project conducted by himself and Dr. Charles R. Jessee of the Virginia State Department of Health.)

The study involved the investigation of health hazards which might exist in agricultural education laboratories. Schools selected for the study were those with laboratories in which the desired information could be obtained. The schools were distributed over the State as much as possible. Due to limited funds and time only twenty-two departments of agricultural education were selected, plus the agricultural mechanics laboratory at VPI & SU.

The areas studied were (1) welding fume-in-air-concentration determination, (2) wood dust-in-air-concentration determination, (3) lighting measurements, (4) carbon monoxide-in-air-concentration measurements, (5) noise level determination, (6) exhaust ventilation systems evaluation, (7) lead fume-in-air-concentration evaluations, and (8) cadmium fume-in-air-concentration determinations.

Findings

Sound - The measurements, recorded in decibels, were in the eight octave band frequencies usually associated with the average human hearing range. The octave bands used were 37.5 through 9600 representing the cycles per second. Since the octave bands of 300 through 2400 are the ones of most concern, the study dealt chiefly in this area with ranges of 300-600, 600-1200, and 1200-2400. These octave bands are known as the social hearing levels where conversation, radio, television, and music are heard. If the level is above 85 decibels in these bands, corrective measures are necessary. The average when all equipment was on but not in operation was 87.5 decibels. With the planes on the average was 95.61 and the radial arm saw averaged 89.72 decibels. The decibels recorded indicated that the noise levels were unacceptable.

Our recommendations were to use ear plugs or muffs when using the radial arm saw and planes. More research should be done along this line with materials that will absorb the sound.

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Wood Dust Concentrates - In the survey of 206 high school agricultural laboratories in Virginia, only 78 or 38% had dust removing systems. The threshold limit value (TLV) is fifty million particles of dust per cubic foot of air for wood dust concentration. Tests were made in the center of the shop, before operation, during operation and at the planer and radial arm saw.

The tests proved that the TLV was not high enough to cause the school laboratories to be closed, but was high enough to present a health hazard. We recommended that all laboratories have a dust removing system.

Lighting - The lighting was measured in foot-candles and compared to the Illuminating Engineering Society recommendations. As a whole, the lighting was very poor in the older buildings. The average laboratory had 22 foot-candles. The recommended number of foot-candles is 100.

Iron-Oxide - The iron oxide fumes are measured in milligrams per cubic meter of air. The threshold limit value is 10. Where there was no method of removing the fumes the TLV went up to 12.38. Where approved, individual hoods were used and the TLV was reduced to 0.11 and 0.14.

We recommended that all welding be done under an approved individual hood. Plans for this hood can be secured from the Agricultural Engineering Department at VPI & SU, Dr. J. P. Mason, Head.

Carbon Monoxide - The carbon monoxide was reported in parts per million, and the TLV was 50 parts per million. We found that under normal conditions there was no problem with carbon monoxide.

Brazing - The concentration of fumes from brazing did not exceed the TLV, however, the concentration was high enough to recommend that all brazing be done under an exhaust ventilated hood.

Airborne Lead and Cadmium Fumes - Airborne lead fumes generated by soldering operations and cadmium fumes generated by silver soldering operations did not exceed the TLV, however, the concentration was high enough to recommend that all soldering be done under an exhaust ventilated hood.

Summary - The study revealed that the TLV of dust and fumes in the laboratories were seldom reached; however, the concentration was high enough to present a health hazard. For this reason it is recommended that all soldering and welding be done under a hood with a proper ventilating system, that all laboratories should have a dust removing system and that lighting be brought up to standard. Further study is recommended for noise.

Evaluation of Virginia Agriculture Programs Using the Krebs Model

John R. Crunkilton*

The recent emphasis on evaluation has placed a great priority on the development and implementation of successful evaluation techniques.

Several years ago, Dr. A. H. Krebs developed a model for the evaluation of secondary school programs of vocational education in agriculture. The underlying basis for the development of his model rested with the situation that many current evaluation techniques did not attempt to measure the degree to which students used the skills and abilities learned in agricultural education and that few evaluation procedures were refined to the point that a local teacher could use the model himself to evaluate a local program.

The model developed by Dr. Krebs was designed to remove the two weaknesses pointed out in the preceeding paragraph.

The model was developed and tested in two schools in the State of Maryland. The purpose of this study was to test the applicability of the model to the agricultural education programs in the State of Virginia.

Time and resources permitted the testing of the model in only one school in Virginia during the first research project. This school was James Wood High School located in Northern Virginia.

An example of the data collecting instruments included in this evaluation model are:

List of Instruments and Guides

Form 1. Individual Student: School Records and/or Exist Interview

Form 2. Individual Student: Employment

Form 3. Individual Student: Continuing Education

Form 4. Individual Student: Social Adjustment

Form 5. Individual Student: Employer Satisfaction Rating

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Form 6. Individual Student: Adult Education

Form 7. Individual Student: Content-Use Inventory

Form 8. Individual Student: Personal Data for Current Students

Form 11. Manpower Needs in Agriculture - School Placement Area

Form 12. Population Served by Vocational Education in Agriculture

Form 13. Placement-High School Graduates - Agriculture Program

Form 14. Placement-High School Nongraduates - Agriculture Program

Form 15. Persons Interested in Enrolling in Agriculture Courses

Form 16. Enrollment Objectives for Agriculture Program

Form 17. Secondary Program Financial Analysis - Agriculture

Form 18. Adult Program Financial Analysis - Agriculture

Form 19. Adult Attitudes Toward Vocational Agriculture in the Public Schools

Form 20. Occupational Experiences in Agriculture - Standards

Form 21. Purposes of Local Education Programs

Form 22. Local Policies Relating to Agricultural Education

Form 23. Local Resources for Vocational Education in Agriculture

Form 24. Kinds of Agricultural Education Programs - Vocational and Non-vocational

Form 25. State and Federal Contributions to the Vocational Agriculture Program, Other Than Financial

Form 26. Agricultural Occupations Survey

Form 27. Provisions for Evaluating the Vocational Agriculture Program

After the evaluation model was applied, the conclusion was made that the model was indeed feasible for use in Virginia and provided ample information for needed program change and direction.

Also as a result of the study, Phase II of the project was funded for the second year and provided resources for further testing in two additional schools.

The publications Testing of Model for Evaluation of Secondary

School Programs of Vocational Education in Agriculture and Summary Report of the Evaluation of the James Wood High School's Agricultural Education Program were distributed and are available upon request. Additional publications purchased during this study are also available upon request.

ASSEMBLING AND USING OCCUPATIONAL DATA CONCERNING FORMER STUDENTS OF VOCATIONAL AGRICULTURE IN VIRGINIA

Martin B. McMillion*

Purpose

To ascertain the percentage of Vocational Agriculture graduates who made use of 144 items of content that were usually taught in Virginia departments of vocational agriculture and were either used on the job or off the job by graduates.

Method

Data were collected through personal interviews of 1396 former students by their teachers of agriculture. In response to each of the 144 items of subject matter content, one check-mark was made indicating either use on the job, use but not on the job, or did not use. Other items of information collected were number of years of agriculture studied, agriculture option studied, jobs held, year of graduation and attendance at post-secondary institutions. A summary of the information was provided by school, by area and for the entire State of Virginia.

Findings

1. The items of subject-matter content used on the job by one-third or more of those surveyed numbered 18 out of 144 items. Sixteen of these items were in agricultural mechanics.

2. The items of subject-matter content used by less than 10 percent of those surveyed numbered thirteen. They were 1) conducting plant breeding work, 2) developing and operating an agricultural recreation business, 3) testing milk, 4) producing hybrid and certified seed, 5) propagating plants through grafting and layering, 6) designing a landscape, 7) irrigation, 8) testing soil, 9) registering with breed association, 10) grading livestock, 11) inspecting livestock, 12) selling supplies and materials used for growing plants, and 13) processing for market.

3. One-third of those followed up earned over half of their income from an agricultural occupation. Seventy percent were employed at least part time in an agricultural

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occupation. When those in mechanical but not agricultural occupations were added, 88 percent of those followed up were making use of several of the subject-matter content items on the job.

4. Use of items related to leadership and club activities as well as business management items appeared to be age related in that a higher percent of earlier graduates were using them.

5. The number of graduates using the items of content among the 471 graduates classified as earning over one-half of their income from an agricultural occupation was nearly five times greater (47.8 vs. 9.9 percent) than for the remainder of the group. The key to use of content is establishment in the occupation for which trained.

6. Former students who studied four or five years of agriculture used more subject-matter content items on the job. The average use of all 144 items by those who studied agriculture three years was 17 percent; four years, 23 percent; and five years, 28 percent.

7. Those classified as having earned over half of their income from an agricultural occupational studied agriculture longer than the remainder of those followed up. The amount was two and one-half months more.

8. Approximately one-third of those followed up enrolled for full-time post-secondary education of any kind. Approximately half of that number studied agriculture.

LOCAL SCHOOL RESULTS OF THE CONTENT-USE STUDY

Charles Curry*

The Content-Use Study has made a significant contribution to agricultural education in Virginia. The study was beneficial to the agriculture teacher in two basic ways. The process involved in collecting the data may in the long run prove to be as valuable as the results obtained.

Personal interviews with former students, chapter get-togethers with former students and present students, and telephone conversations with former students were used to collect the data and offered excellent opportunities for teachers and students to get first hand experience on the careers and job entry skills used by former students.

The results of the study may be used to analyze the present program and make appropriate changes that would increase the value of the instruction and more adequately meet student needs. Care should be taken in implementing new content areas and discontinuing unused items of instruction. Some of the items may be used later in the student's occupation.

It is urged that in this and all research an effort be made to discreetly force teachers to use the knowledge gained to the best advantage for the benefit of the student.

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*Mr. Charles Curry, Instructor, Agricultural Education, Division of Vocational and Technical Education, College of Education, Virginia Polytechnic Institute and State University, Blacksburg, Virginia.

USE OF RESOURCE PEOPLE BY TEACHERS OF VOCATIONAL AGRICULTURE IN KENTUCKY

Maynard J. Iverson*

"It pays to specialize!" These words are particularly true when applied to the field of agriculture. Nowhere has the impetus for specialized services been stronger than in the farm and farm-related industries of the U.S. Faced with a greater diversity of subjects to be taught, the teacher of vocational agriculture has had to seek greater amounts of sophisticated knowledge from a variety of sources. Nationally, the key words are "resource personnel"--outside specialists brought into the classroom to enrich instruction through shared expertise.

In Kentucky, interest in this phenomenon came to the forefront in a September, 1971 meeting of the Advisory Committee for Adult Education in Agriculture. Subsequently, the combined state staff in agricultural education--made up of teacher educators at the four institutions offering agricultural education and the state supervisory staff--decided to emphasize resource personnel in a series of district meetings held around the state in late fall. This study is the result of efforts to learn more about the topic as it applied to Kentucky and to make needed improvements based on the findings.

Objectives

The major purpose of the study was to determine the use made of resource personnel by teachers of vocational agriculture in Kentucky. Specific objectives were:

1. To determine numbers and kinds of resource people used by teachers of vocational agriculture.
2. To identify the relationship of selected variables to utilization of resource personnel by vocational agriculture teachers.
3. To ascertain the means teachers used in locating and securing resource personnel.
4. To discover the effectiveness of resource people, the major problems teachers experienced in using resource personnel, and methods teachers used in securing good results.
5. To identify areas needing additional help from resource people.
6. To assess the change in patterns of use of resource personnel after a concerted effort to improve their use in Kentucky.

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Scope of the Study

This was a state-wide study of the 284 vocational agriculture teachers of adults and high school students in the nine Kentucky districts during the 1971-72 school year.

Methodology

A questionnaire was designed, refined and administered to the 205 vocational agriculture teachers attending one of a series of nine District meetings held in the fall of 1971. The survey was given prior to a presentation made by teacher educators on the subject of use of resource personnel. The following June, a follow-up instrument was administered to 195 teachers attending a series of 15 regional planning meetings. Data were tabulated by computer and partially utilized in developing the Directory of Resource Personnel in Kentucky, published in January, 1972.

The researcher tested several hypotheses dealing with the possible interaction of certain demographic variables with number of resource people used and their quality of performance. These hypotheses are as follows: (For brevity, the demographic variables are grouped within two hypotheses.)

> Hypothesis 1. There is no significant difference in number of resource people used by teachers based upon the districts in which they work, the type of students they teach, the number of teachers in their department, the length of time they have taught, or time they have lived in the community.
>
> Hypothesis 2. There is no significant difference in performance in resource people used by teachers based upon the teacher's district, the type of students taught, number of teachers in the department, years of teaching experience, or length of teacher residence in the community.

Each demographic variable was tested separately against number and performance of resource people, using the Chi Square statistical treatment. Some data were grouped where certain cells would have been too small for accurate analysis.

Limitations

Several limitations should be kept in mind as we review this research:

1. No names were required on the data-gathering instruments; therefore, it was not possible to determine if exactly the same teachers took the "pretest" (first questionnaire), received the "treatment" (presentation by teacher educators) and took the "posttest" (final instrument).

2. Because of the number of meetings held--some on the very same day--it was necessary to have several teacher educators

(from the four institutions of higher education) make the presentations. Even though a standard format was recommended and identical sets of transparency masters were furnished to each man, it is likely that some variations existed between presentations made in the various districts.

3. Another limiting factor to the study is that teachers were asked to respond to both instruments while in attendance at meetings away from their departments. This made it necessary for them to rely on memory rather than any records they had kept. It is, therefore, likely that some discrepancies exist in the numbers and kinds of resource personnel actually utilized. (The writer believes the numbers reported to be on the conservative side.)

Conclusions

Characteristics of respondents

The typical respondent: taught high school and adults (57%), in a multiple-teacher department (70%), and had more than ten years experience (63%), mostly in the same community in which he is now teaching (60%).

Number of resource persons used

During the year prior to the study, 851 resource people were used by 173 teachers (84%) for an average of 4.9 per teacher; 157 teachers used an average of 3.1 resource people in high school classes; 67 teachers reported using 246 resource people with adult farmers for an average of 3.7, and 17 teachers of young farmers used 130 resource people (7.0 average). Numbers of resource people utilized were found to be affected by the type of students taught, whether high school or adults.

Sources of resource personnel

The leading categories from which the resource personnel came were (in descending order of frequency of use): agribusiness firms, the Cooperative Extension Service, the Soil Conservation Service, financial institutions (banks, PCA, FLB, FHA), the professions (lawyer, veterinarian, etc.) and the ASCS. Elected government officials were used the least. Resource people used were primarily from the local or district area; only a few were from other states.

Means of locating resource personnel

Teachers listed personal contacts as the major source of locating resource personnel (checked by 151); the next most frequently used source (by 45 teachers) was the County Extension Agent. Class members and other vo-ag teachers were a source for 31 teachers. University contacts and local advisory groups or councils were used somewhat less. Teacher trainers and the State Department were used the least.

Performance levels

Performance of resource people averaged good to excellent as rated by 181 teachers. One-half of the teachers said their resource people had done an excellent job while only one said they had done a "fair" job. No resource people were rated as "poor." Performance was found to be affected by the teacher's length of residence in the community.

Problems in using resource personnel

Major problems experienced by teachers in using resource people were: time in arranging (131 teachers); finding qualified people (61 teachers); and keeping speakers on the topic (23); and within the time limit (10). Cost was a factor in only nine cases.

Best methods of using resource personnel

Teachers emphasized preliminary care in selection, personal contacts to orient resource people on procedure and content, managing the class during the presentation, and follow-up work by the teacher with the class, as methods of securing good results with resource people.

Technical help needed

Teachers expressed the need for additional help from resource people in a wide variety of subject areas--mostly in highly technical and/or new developments in agriculture.

Evaluation of promotional efforts

Teachers rated the presentation used to promote resource personnel utilization as generally good to very good. Teachers who attended the promotional meeting reported utilization of a significantly higher number of resource personnel, and local files, class management, and techniques in securing personnel were improved.

Recommendations

1. Greater utilization should be made of agricultural specialists and others who can enrich the educational program by serving as resource personnel. Although this will vary by community and extensiveness of program offerings, use of more resource persons per year constitutes a desirable goal.

2. Vocational agriculture teachers should continue to utilize local and district sources of resource personnel but they should also go to state and even out-of-state sources for specialists needed. Surveys of the community, district, and state should be utilized for identification of potential resource people.

3. A systematic means of locating resource personnel should be developed. Local files, district lists, and a state-wide directory should be

maintained and utilized. State-level staff should assist teachers in securing high quality speakers.

4. Teachers and state staff must be concerned with quality performance by resource personnel. Teachers should communicate exact needs to guest speakers, prepare the class for the visitor, moderate the presentation and arrange for follow-up. Preservice and inservice education should be given on proper utilization of resource people.

5. Attention should be directed to the problems and methods of handling resource people as expressed by the teacher. Time should be allotted at conferences and district meetings for sharing ideas, problems, and methods.

6. Priority should be given to locating, evaluating, and disseminating lists of resource people in the specialty areas of need indicated by the vocational agriculture teachers.

7. Additional study should be made of patterns of utilization of resource personnel; new ideas as well as proven methods for securing effective contributions from outside specialists should be disseminated to agricultural education personnel at all levels.

Summary

This research has indicated that Kentucky's wealth of agricultural specialists is being fairly effectively utilized by teachers of vocational agriculture, but it has also shown that a potential exists for much more extensive and intensive use of resource personnel. Properly selected and oriented resource people can make significant contributions to the total program of vocational agriculture. The teacher's challenge is to seek out and relate them to the instructional program. The combined state staff in agricultural education should work to complement that effort.

AGRICULTURAL EDUCATION RECRUITING PRACTICES

Vanik Eaddy*

(Editor's Note: The presentation by Dr. Eaddy was a report of a research project entitled, "Agricultural Teacher Education Recruiting Practices in the Southern Region." The purpose of the study was to determine the recruiting practices being followed, including personnel involved, effectiveness, groups in which recruitment activities were conducted, and kinds of activities utilized. The following tables summarize the findings.)

Table I: Personnel Involved in Recruiting in Agricultural Education Ranked According to Assigned Responsibility, Extent of Participation, and Degree of Effectiveness

Personnel Involved in Recruitment in Agricultural Education	Rank		
	Responsibility	Participation	Effectiveness
Teacher Educators	1	1	2
Head Teacher Educators	2	3	3
Secondary Teachers of Vocational Agriculture	3	2	1
Head State Supervisors	4	6	6
Collegiate Organizations (FFA, ATA, etc.)	5	5	4
District or Area Supervisors	6	4	8
Recruiting Committees	7	8	7
Specialists in Agricultural Education	8	7	5
Post-Secondary Instructors of Agribusiness Technology	9	10	9
Professional Organizations	10	9	10

*Dr. Vanik Eaddy, Associate Professor, Agricultural Education, Auburn University, Auburn, Alabama.

Table II: Recruiting Combinations or Teams Ranked According to Use in the States

Recruiting Combinations of Teams	Rank According to Use in the States
Teams of Teachers, Supervisors and Teacher Educators Working Together	1
Teacher Educators Working Independently	2
Teams of Supervisors and Teacher Educators Working Together	3
Teachers Working Independently	4
Supervisors Working Independently	5
Teams of Teachers and Supervisors Working Together	6

Table III: Recruitment Organizations Ranked According to Use in the States

Recruiting Organizations	Rank by Frequency of Response		
	Number	Percent	Rank
A Primary Responsibility of Each Teacher Education Institution	18	28.7	1
A Shared Responsibility of the State Staff and Teacher Education	13	20.7	2
Professional Organizations Such as the State Affiliate of NVATA	12	19.0	3
No Statewide Recruiting Organization	8	12.7	4
District, Area, or Regional Committee	4	6.3	5
Statewide Recruiting Committee or Commission	4	6.3	5
A Primary Responsibility of the State Staff	4	6.3	5

Table IV: Student Groups Toward Which Recruiting Efforts Were Primarily Directed Ranked in Order of Emphasis

Student Groups	Rank According to Emphasis
Secondary Programs in High Schools	1
Junior High School or Exploratory Programs	2
Post-Secondary Technical Agricultural Program	3
Academically Oriented Junior Colleges	4
Agricultural Science Majors	5
Secondary Programs in Area Vocational Schools	6

Table V: Dependence Upon Recruiting Activities

Recruiting Activities	Dependence		
	Primary	Secondary	Insignificant
Contact with Students Through FFA	19	7	2
Recruiting Visits to Secondary & Post-Secondary Schools	16	10	3
Correspondence with Interested Individuals	15	11	1
Dependence upon Teachers of Agriculture	15	10	3
Printed Brochures or Other Information Provided	13	10	3
Career Days on the University (or College) Campus	10	11	8
Information Supplied to Counselors or Principals	5	17	7
Career Days in Local School Systems	3	19	5
Television, Radio, or Newspaper Announcements	2	6	18

Table VI: Career Opportunities Presented Prospective Students, Ranked by Frequency of Response

Career Opportunities	Rank by Frequency of Response		
	Number	Percent	Rank
Teaching Vocational Agriculture	29	31.8	1
Agricultural Education	22	24.2	2
USDA, (SCS, FHA, etc.)	20	22.0	3
Agribusiness (Management, Marketing, etc.)	18	19.8	4
Farming or Ranching	1	1.1	5
Agricultural Organizations	1	1.1	6
Total	91	100.0	

Table VII: Employment Incentives Presented Prospective Students, Ranked by Frequency of Response

Employment Incentives	Ranked by Frequency of Response		
	Number	Percent	Rank
Salary	26	16.3	1
Opportunities for Advanced Study	23	14.4	2
Professional Status	22	13.8	3
Opportunity for Social Contribution	21	13.2	4
Working Conditions	20	12.6	5
Vacationaand Leave Policies	19	12.0	6
Retirement Pension Plans	12	7.6	7
Insurance (Group, Life and Hospitilization)	6	3.8	8
Campus Life (campus atmosphere)	6	3.8	9
Discount Purchases (autos, tires, batteries, etc.)	4	2.5	10
Total	159	100.0	

Table VIII: Curricular Requirements Presented Prospective Students, Ranked by Frequency of Response

Curricular Requirements	Ranked by Frequency of Response		
	Number	Percent	Rank
General Overview of Required Courses	26	34.2	1
Agricultural and Supporting Course Requirements	19	25.0	2
Options for Attaining State Certification	17	22.4	3
General Education Requirements	14	18.4	4
Total	76	100.0	

Conclusions

1. Students are actively solicited, but demand exceeds supply.
2. Recruiting is primarily a personal contact effort.
3. Key personnel in contact with students are most effective--especially enthusiastic teachers having successful programs.
4. Recruiting efforts are more efficient through a team approach.
5. Statewide or district recruiting committees or commissions are scarce--some coordination exists between teacher educators and state staff--most recruiting efforts are developed of, by, and for teacher education institutions.
6. Primary target groups are secondary vo-ag students--trend observed to reach junior high and post-secondary youth.
7. Personal contacts, especially through FFA, primarily utilized--communications media least employed.
8. Teaching vocational agriculture is not the career objective of a significant number of students recruited into agricultural education.
9. Prospective students are concerned about employment incentives.
10. A service is provided prospective students through supplying career information needed for decision making.

11. Sharing of successful and innovative recruiting practices could be beneficial.

Recommendations

1. Recruiting of prospective students should receive high priority.
2. State-wide planning and coordination is essential.
3. Recruiting teams should be established.
4. Collegiate organization and individuals should be involved.
5. Career information should be supplied teachers, counselors, and others.
6. Personal contact, especially through FFA, should be stressed.
7. State agricultural teacher association should be involved.
8. Greater utilization of communications media should be undertaken.
9. Recognize broad career opportunities available to graduates--recruit two to obtain one teacher.
10. Recruiting should be regarded primarily as a service in providing career planning information.
11. Develop unique and innovative activities which supply information required and build a proper image.
12. BE ENTHUSIASTIC!

Appendix A

Summary of Mini-Reports on

State Research and

Development Projects in Progress

Alabama

Report by S. Douglas Patterson, State Department of Education; Vanik Eaddy and Cayce Scarborough, Auburn University; and Taylor Byrd, Jr., Alabama A & M University

1. Follow-up of All Secondary School Learners--Analysis indicates agricultural education graduates out-do other vocational programs in percentage of graduates employed and in percentage of graduates employed in fields related to training.

2. Curriculum Research--Seven occupational areas will be studied. Agricultural supplies, sales and services will be studied. Job tasks, performance-based objectives, and learning activities will be developed.

3. EPDA Project--Agriculture teachers and others will be trained to utilize criterion-referenced instructional materials.

4. "Acceptability of Blueberry Production to Low-Income Farmers"
   Dr. Gerald Wheelock

5. "A Ten-Year Follow-Up Study of Agricultural Education Graduates at Alabama A & M University"
   Dr. Celedonia Gapasin

6. "An Analysis of FHA Loans Availability to Ethnic Groups in Madison County, Alabama"
   Stanford King, Graduate Assistant

7. "Development of Backyard Greenhouse Production to Enhance Low Income Family Economics"
   Taylor Byrd, Jr.

8. "Development, Implementation and Evaluation of a Leadership Development Program in Lawrence County, Alabama"
   Carlton Morris, Graduate Assistant

9. "Agricultural Teacher Education Recruiting Practices in the Southern Region"
   Staff Study, Department of Vocational and Adult Education, Auburn University, VAG Research Series 1 - 74, 1974.

10. "Evaluation of Technical Internship in Agricultural Education"
    Staff Study, Department of Vocational and Adult Education, Auburn University, in progress.

Florida

Report by J. Glenn Morrill

Florida's Agricultural Education research efforts continue to center around achievement of objectives outlined in 1970 under a study known as Florida Project Agriculture. This study, instituted for the improvement of our training programs and not yet completed, is proving to be a far bigger challenge than anticipated. Perhaps it is only now that this project is being recognized in terms of the time and other resources that will be required for its completion. Good progress is being made, however, in this direction and the results initially envisioned for the study appear to be assured provided existing resources can continue to be allocated over a period of time, not only for completing the project, but also for implementation of the findings.

Currently task analysis studies are being completed for turfgrass workers in connection with research contracted under V-TECS and National Consortia programs. Other components of the Agribusiness and Natural Resources industry will be undertaken on a priority schedule as resources permit. Task analysis studies and the preparation of performance objectives for each of the three phases of Floriculture is next in line. Afterwards, other areas of investigation will be selected according to their importance in the State of Florida and based also on results that may become available in the meantime through the consortia. Other states with a commonality of purpose and interest are invited to work with us and will be made welcome if they desire to do so.

Kentucky

Report by Maynard Iverson, University of Kentucky

During the past year or so, the following research efforts have been completed or undertaken:

1. "Use of Resource Personnel in Kentucky Vocational Agriculture Programs"
   Staff study completed during 1973-74 (See Conference Report.)

2. "Hazard Career Education Evaluation Project"
   A study just completed involving a one-year follow-up of the career education program in the Hazard, Kentucky, region. Four components--student, community, management and professional--were studied. Results are presently being compiled.

3. "Agriculture Competency Study"
   Professors Binkley, Tulloch and Iverson have undertaken the following subareas of production agriculture (respectively): tobacco, vegetables, and small fruits. Instruments are being developed for validation by workers in industry.

4. "Readiness of Student Teachers for Teaching Adults."
   A study was conducted of the student teachers who went through the University of Kentucky's teacher preparation program during the 1973-74 school year. Pre-and post-test data have been collected and summarized. Publication is anticipated during the fall semester. (Staff Study by M. Iverson)

5. "Factors Involved in Occupational Success of Former Vo-Ag Students"
   Doctoral study completed by Dr. Tulloch

6. "V-TECS--Agricultural Mechanics"
   State department agricultural education personnel, along with a representative of the Curriculum Development Center at the University of Kentucky, are involved in developing the agricultural mechanics segment of V-TECS

North Carolina

Report by A. P. Bell, North Carolina A & T State University, and
C. D. Bryant, North Carolina State University

Studies Completed

"Who's Teaching What in Vocational Agriculture in North Carolina"
Cayce Scarborough and Zeb James

"Expanding Occupational Education Opportunities in Small Rural High Schools"
C. D. Bryant, Research Coordination Unit, State Department of Public Instruction, Raleigh, North Carolina, 1965.

Studies Underway

"Follow-Up Study of Agricultural Education Graduates, 1964-1973"
C. D. Bryant, William Braswell, James Worley and Douglas Best

"A Summary of Teacher Involvement and Student Enrollment in Vocational Agriculture Curriculum in North Carolina"
C. Douglas Bryant

"An Evaluation of Caldwell County Career Education Program"
Texton Miller and Walter Cox, Research Coordinating Unit, State Department of Public Instruction, Raleigh, North Carolina

Oklahoma

Report by James Key, Oklahoma State University

Studies of Special Interest

1. "The Image of the FFA as Perceived by Current Active Members and Advisor" (D)
   Clifton R. Braker

2. "A Survey of Salaries and Working Conditions of Agriculture Teachers in the U.S."(M)
   Gary D. Hill

3. "Evaluation and Revision of a Curriculum for Agricultural Career Awareness in Oklahoma"(D)
   Willis O. Johnson

4. "Employee-Employer Assessment of the Effectiveness of Agricultural Mechanics Training Received at Modesto Junior College" (D)
   Stanley L. Hodges

5. "Vocational Education Preferences of Senior High School Students in a Four County Area of Florida"(D)
   Theodore P. Swingle

Studies in the Area of Teacher Education

1. "New Teachers Perceptions of the Pre-Service Agricultural Education Program at Oklahoma State University"(D)
   Gary W. Updyke

2. "An Evaluation of the Pre-Service Program for Teachers of Vocational Agriculture at Oklahoma State University"(M)
   John M. Harris

3. "Teacher and College Student Perceptions of Items Influential in the Decision to Teach Vocational Agriculture"(M)

4. "A Study of the Role of Vocational Agriculture Teachers in Environmental Awareness in Oklahoma"
   Kenneth D. Brink

Studies of Student Activities

1. "Occupational Aspirations of a Selected Group of Guthrie High School Students Enrolled in Vocational Agriculture Programs" (M)
   Walon D. Holt

2. "The Occupational Decisions Made by State Farmers and/or State Proficiency Award Winners in the Thomas Schools from 1946 through 1974 and Selected Information Related to Those Decisions"(M)
   Elmer K. Pennington

3. "An Evaluation of Fund Raising Methods and Activities Used in Financing Future Farmers of America Programs of Work in Local Chapters of the Central Oklahoma Vocational Agriculture Supervisory District"
James D. White

Studies in Adult Education

1. "Attitudes Toward the Young Farmers Association of Superintendents and Vocational Agriculture Teachers in Schools with Chartered Young Farmers Chapters in Missouri"(M)
Roy Zane Mulbery

2. "A Comparison of Identified Teaching Success Characteristics of Adult Vocational Teachers with Their Attitude Inventory Scores"(M)

International Student Studies

1. "Employment Opportunities of Vocational Agriculture Students in Afghanistan" (M)
Abdul A. Asmaty

2. "A Projection of a Management by Objectives System for the Agricultural Extension Service of Afghanistan" (M)
Mohammed Nazir Habibi

3. "A Study of FFA and 4-H Programs, Organizations and Activities in Oklahoma with Implications for Nigeria" (M)
Johnson B. Adegboye

4. "Concepts of Successful Factors Contributing to the Organization and Maintenance of 4-H Clubs with Implications for Tanzania" (M)
Fabyan B. L. Thewpemba

Studies by the Research Planning and Evaluation Division of the State Department of Vocational and Technical Education

1. A continuation of the OTIS (Occupational Training Information System) to provide supply and demand information in occupations in Oklahoma which published its sixth report under the direction of Dr. J. B. Morton.

2. A continuation of the Statewide Evaluation of all vocational programs. This evaluation will evaluate every vocational program over a period of five years and is under the direction of Dr. Ralph Ross.

3. Continuation of the Management by Objectives System in each division of the Oklahoma State Department of Vocational and Technical Education and dissemination to interested states primarily by Dr. W. W. Stevenson and Dr. Charles O. Hopkins.

4. Development of a Linear Programing System for aiding decision-making concerning vocational and technical programs under the direction of Dr. Charles O. Hopkins.

Note: D = Doctoral thesis.
M = Masters thesis.

Texas

Report by Jim Christiansen, Texas A & M University

1. Determining Changes Needed in Preparing Teachers of Vocational Agriculture

   This is to be a continuing five year study funded by the Agricultural Experiment Station. Attention in the study will be paid to:

   a. Determining guidance activities and roles of teachers of vocational agriculture

   b. Determining what are the activities in which teachers are actually engaged today

   c. Determining the extent to which undergraduates are being prepared to perform those activities needed.

2. Determining Competencies Needed in Cotton and Horse Production

   This is part of the national project on agribusiness competencies and will be funded by the Texas Education Agency.

Virginia

Report by James Clouse, Virginia Polytechnic Institute and State University

1. "A Survey of Need for Personnel in Educational Media and Technology in the State of Virginia"
   Jasper S. Lee and David M. Moore

   This study involved a survey of school superintendents and deans of instruction in community colleges in the State of Virginia to:

   1) Determine the educational status of persons currently employed as specialists in educational media and technology.

   2) Determine the projected demand for specialists in educational media and technology.

   3) Determine the areas in which training is needed by specialists in educational media and technology.

2. "A Study of the Exploratory Agriculture Programs in Virginia"
   Larry E. Miller

   This study involved a survey of twenty-four exploratory agriculture teachers and seven state staff members to determine their opinions of exploratory agriculture. A one hundred item survey questionnaire, employing Likert scaling, was used.

   The results provided valuable input into the development of a pilot "curriculum guide" for teachers of exploratory agriculture. Specific recommendations resulting from the study are:

   1) There is a need for a substantial curriculum development effort for exploratory agriculture including the writing of objectives, the development of curriculum guides and the development of teaching materials.

   2) Exploratory agriculture programs should maintain a career education focus and need the support of good counseling services and adequate record keeping.

   3) As exploratory agriculture programs begin to grow, there will be a need for additional funding to provide the school personnel with adequate facilities and materials.

   4) There is a need for in-service as well as pre-service teacher training in the area of exploratory agriculture in order that qualified teachers are assigned to teach in such programs.

3. "A Five Year Follow-Up of Non-Teaching Agricultural Education Graduates"
   Larry E. Miller (See Conference Proceedings for description.)

4. "Pre-Teacher Attitudes Toward the Concepts of Classroom Teaching and High School Students Before and After Videotaping a Micro Lesson with a Group of High School Students"
   John R. Crunkilton (See Conference Proceedings for a description.)

5. "Evaluation of Virginia Agricultural Education Programs Using the Krebs Model"
   John R. Crunkilton (See Conference Prodeedings for description.)

6. "Evaluation of Occupational Hazards in Agricultural Education Laboratories in Virginia"
   Robert A. Wall (See Conference Proceedings for a description.)

7. "Assembling and Using Occupational Data Concerning Former Students of Vocational Agriculture in Virginia"
   Martin B. McMillion (See Conference Proceedings for a description.)

8. "Relationship between First-Year Teachers' Morale and Behavior"
   Larry E. Miller

   This study concerned with "What relationship exists between first-year teachers of agricultural education's morale and their teaching behavior in the classroom?" The instruments and techniques used to evaluate the dependent variables were the Purdue Teacher Opinionaire (PTO) to determine teacher morale and Flander's Interaction Analysis to assess classroom behavior. The invited sample of the study were all first year teachers, during 1973-74, in agricultural education in Virginia who were enrolled in EDVT 5090 - First Year Teacher's Problems.

9. "Role of Principals of Vocational-Technical Centers in Virginia as Perceived by Incumbents, Superintendents, and Teachers"
   Elmer Cooper (See Conference Proceedings for description.)

10. "Role Functions of the Community College President in Virginia as Perceived by Incumbents, Division Chairmen, and Teachers"
    Glenn McCarty, Doctorate Dissertation

Purpose

The purpose of this study was two-fold. The primary purpose was to determine whether or not discrepancies existed in perceptions of selected role functions of the presidency, as perceived by the presidents, division chairmen, and teaching faculty. A second purpose was to determine if role perceptions of presidents, division chairmen, and teachers toward the presidency were correlated with size of student enrollments in the 23 community colleges.

Method

Data were obtained through the use of a 41 item questionnaire. All presidents and division chairmen were invited to participate in the study. The teachers surveyed consisted of a ten percent stratified

random sample. The average response rate for the three groups was 86.5 percent. The data were analyzed statistically by factor analysis, discriminant analysis, z-test, and correlation coefficients (r's).

Findings

Factor analysis of the responses resulted in the identification of ten factors underlying the 41 items or functions in the questionnaire. These ten factors were: (1) Direct Involvement with Faculty-Staff Development, (2) Public Relations of Securing and Allocating Financial Resources, (3) Representation Before the State Board, (4) Working Directly With Students, (5) Non-Educational Matters, (6) Consulting with Individuals and/or Groups, (7) Supervision and Evaluation of Instruction, (8) Personal Participation Concerning Facilities and Grievances, (9) Staffing and Governance, and (10)Personal-Professional Development.

Results of the z-tests indicated that a statistically significant difference existed between teachers and presidents and between teachers and division chairmen on nine of the ten factors. The z-values between division chairmen and presidents were considered significantly different on seven of the ten factors. No statistically significant correlations were found between student enrollment and perceptions held by teachers and division chairmen. A moderately high correlation between president's perceptions and student enrollment was found on only one out of the ten factors.

Appendix B

Summary of Committee Reports

on

Research Needs and

Regional Research Projects

NEEDED AREAS FOR RESEARCH

Group A

Recruitment

1. Factors influencing individuals to enter and remain in Vo-Ag teaching.

2. The extent to which agricultural teachers influence students to enroll in agricultural education in college.

3. High school agricultural students' perception of agricultural teaching as a profession.

Preparing Teachers of Agriculture

1. New ways of preparing teachers.

2. Alternate routes to teacher training.

3. Occupational experience programs as a part of the teacher education program.

4. Coordination of teacher education programs between institutions within a state.

The identification of a simple study:

The programs for preparing teachers are similar in many universities across the country. A study needs to be made concerning new ways or alternate routes to preparing teachers of agriculture. This might be by:

1. Survey of current programs
2. Survey of other educational areas
3. The use of the "brain train" or "think tank" idea

In-Service Education

1. Comparison of alternative approaches to in-service education.

Administration - Supervision

1. Determination of methods of program coordination between teacher training institutions within states.

2. Attitudes of people in positions of responsibility toward the functions of teacher education departments and supervisory staffs.

Job of an Agriculture Teacher

1. Task analysis of job of agriculture teachers.

Functions of a Teacher Education Department (Tentative Statement of a Research Project)

Analysis of the functions of a teacher education department within a university and in the state program, including the role(s) of teacher educators, with implications for in-service education:

1. Role of teacher education (or teacher educators) in state planning.

2. Functions of teacher education department as seen by people in relevant positions of responsibility.

3. Impact of the location of the teacher education department within a university (Agriculture - Education - Other).

4. In-service education needs of teacher educators.

5. Strategies for self-development of leadership skills of teacher educators.

6. Methods of program coordination of teacher education within a state.

Curriculum Study

1. What use is made of curriculum materials diffused/disseminated?

Program Planning

1. Planning for and assessment of a year-round program in vocational agriculture.

GROUP B

Teacher Preparation

Investigation into the following aspects: teacher morale, specialization by subject matter areas, teacher retention, teacher mobility, financing teacher education, aims of present training programs, professional development of undergraduates through intern programs, and assessment of activities teachers are presently doing.

Program Planning

Study the aspects of: criteria for local programs, articulation between secondary and post-secondary programs, reporting systems,

implications of year-round programs, use of advisory committees, and new horizons for programs.

Teaching methodology

Research into the areas of: Extent and kinds of teaching techniques utilized, influence of competency-based instruction, creativity in teaching, and variations in teaching techniques used.

Recruitment

Study of why students select or reject teaching agriculture as a vocation, and why graduates decide to or decide not to teach.

Youth Organizations

Investigation of major concerns affecting the FFA, including meeting the expectations of students and employers.

Accountability

Exploration of responsibility for the products (graduates), and differential costs of programs.

Appendix C

Conference Program

PROGRAM

TWENTY-THIRD ANNUAL SOUTHERN
RESEARCH CONFERENCE
IN
AGRICULTURAL EDUCATION

Continuing Education Center
VPI & SU
Blacksburg, Virginia

July 23-25, 1974

Tuesday, July 23

11:00 a.m. - 12 noon	Conference Registration -- Lobby of CEC
First Session	Conference Room G, CEC Presiding: James Clouse, Program Leader Agricultural Education, VPI & SU
1:15 p.m.	Welcome to VPI & SU Dr. Alfred H. Krebs, Assistant Vice President for Academic Affairs, VPI & SU
1:30 p.m.	Orientation and Conference Plans Martin McMillion, Chairman Program Planning Committee
1:40 p.m.	Grantsmanship with Private Foundations Dr. Fred Brieve, Director Office of School Services College of Education, VPI & SU
2:55 p.m.	Mini-Reports: State Research and Development Projects in Progress

Alabama	- Douglas Patterson
Arkansas	-
Florida	- Glenn Morrill
Georgia	-
Kentucky	- Maynard Iverson
Louisiana	- C. M. Curtis
Mississippi	-
North Carolina	- A. P. Bell
Oklahoma	- James Key
South Carolina	- Alex Hash
Tennessee	- John Todd
Texas	- James Christiansen
Virginia	- James Clouse

Tuesday, July 23 (continued)

4:30 p.m.	Small group discussion of research needs and possible regional research projects Discussion Leaders - James Key, Oklahoma State University James Christiansen, Texas A & M University
7:30 - 9:00 p.m.	Joint Reception Summer Institute and Research Conference Participants Rehearsal Room, Squires Student Center

Wednesday, July 24

Second Session — Presiding: Dewey Adams, Director, Division of Vocational and Technical Education, VPI & SU

8:30 a.m.	"Progress and Procedural Report on the Vocational-Technical Education Consortium of States (V-TECS)" Ben A. Hirst, Jr., Executive Director V-TECS, Atlanta, Georgia
	"V-TECS in Virginia" J. Dale Oliver Vocational and Technical Education, VPI & SU
9:30 a.m.	"Problems of Reciprocity and Certification in the Southern Region" J. Alexander Hash, Agricultural Education Dept. Clemson University, Clemson, South Carolina
9:55 a.m.	"Annual Local Evaluation of Vocational and Technical Education in Virginia" Donald Elson, Division of Vocational and Technical Education, VPI & SU
10:15 a.m.	Break
10:35 a.m.	Continuation of Small Group Discussion
11:20 a.m.	"Pre-Teacher Attitudes Toward the Concepts of Classroom Teaching and High School Students Before and After Videotaping a Micro Lesson with a Group of High School Students" John Crunkilton, Agricultural Education VPI & SU

Wednesday, July 24 (continued)

11:40 a.m.	"Evaluation of the Texas Pre-employment Laboratory Program in Farm Machinery Service and Repair for Training Mechanics at the High School Level" James E. Christiansen, Department of Agricultural Education, Texas A & M University
12:00 noon	Dutch Treat Lunch
Third Session	Presiding: Dr. M. A. Fields, Head Department of Agricultural Education Virginia State College
1:30 p.m.	"Report from National Committee on Agribusiness Competencies" Jasper S. Lee, Secretary of Committee and Associate Professor Agricultural Education, VPI & SU
1:45 p.m.	"Needed Research in Virginia and the Region" Rufus Beamer, Executive Director Virginia Advisory Council on Vocational Education
2:15 p.m.	"Role of Principals of Vocational-Technical Centers in Virginia as Perceived by Incumbents, Superintendents and Teachers" Elmer Cooper, Agricultural Education, VPI & SU
2:35 p.m.	"A Five-Year Follow-up of Non-Teaching Agricultural Education Graduates" Larry Miller, Agricultural Education, VPI & SU
2:55 p.m.	"Evaluation of Occupational Hazards in Agricultural Education Laboratories in Virginia" Robert A. Wall, Agricultural Education and Agricultural Engineering, VPI & SU
3:15 p.m.	Break
3:30 p.m.	Tours of VPI & SU Campus
6:15 p.m.	Catered Family Picnic Blacksburg Municipal Park

Thursday, July 25

Fourth Session	Presiding: Julian Campbell, State Supervisor of Agricultural Education State Department of Education Richmond, Virginia

Thursday, July 25 (continued)

8:30 a.m.	"Evaluation of Virginia Agriculture Programs Using the Krebs Model" John R. Crunkilton, Agricultural Education, VPI & SU
8:50 a.m.	"Assembling and Using Occupational Data Concerning Former Students of Vocational Agriculture in Virginia" Martin B. McMillion, Agricultural Education VPI & SU
9:10 a.m.	"Local School Results of the Content-Use Study" Charles Curry, Agricultural Education, VPI & SU
9:20 a.m.	"Use of Resource Personnel by Vocational Agriculture Teachers in Kentucky" Maynard Iverson, Agricultural Education University of Kentucky
9:40 a.m.	"Agricultural Education Recruiting Practices" Vanik Eaddy, Agricultural Education Auburn University, Alabama
10:15 a.m.	Break
10:30 a.m.	Reports from small group discussions
10:50 a.m.	Business Session Douglas Patterson, State Department of Education Alabama

Appendix D

Conference Participants

CONFERENCE PARTICIPANTS

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Appendix E

Minutes of Business Meeting

MINUTES - BUSINESS SESSION

S. Douglas Patterson, President
Southern Region Research Conference
Thursday, July 25, 1974

Patterson called the business session to order at 11:00 a.m.

The first order of business was selection of a site and date for the 1975 Conference. The Department of Agricultural Education at Oklahoma State University extended an invitation for the Conference to be held in Stillwater, Oklahoma, July 29-31, 1975. Merrill moved and Crunkilton seconded the motion that the invitation to Oklahoma be accepted. The motion was passed unanimously.

Discussion turned to tentative locations for the Conference for 1976, 1977, 1978, and 1979. Tentative invitations were issued by state representatives, as follows:

1976 - Louisiana
1977 - Kentucky
1978 - Alabama
1979 - North Carolina

Scarborough moved to develop a resolution on the need for positive support of agricultural education in certain states and that the resolution be sent to Glen McDowell, President of the Agricultural Education Division, AVA, with a request that it be presented for consideration during the Convention in New Orleans. Hash seconded. Motion carried.

Clouse inquired regarding a constitution. Patterson indicated that he had been unable to locate a copy and had relied upon former presidents for information about the constitution. Discussion over the need for locating a constitution or writing another one arose. Crunkilton moved that a constitution committee be appointed. Clouse seconded. Motion passed. Patterson appointed the following persons to the committee:

Cayce Scarborough, Chairman
Martin McMillion
Jim Christiansen

Iverson proposed a resolution to commend Martin McMillion and other members of the agricultural education staff at VPI & SU for a good conference. Unanimously passed.

Meeting adjourned.